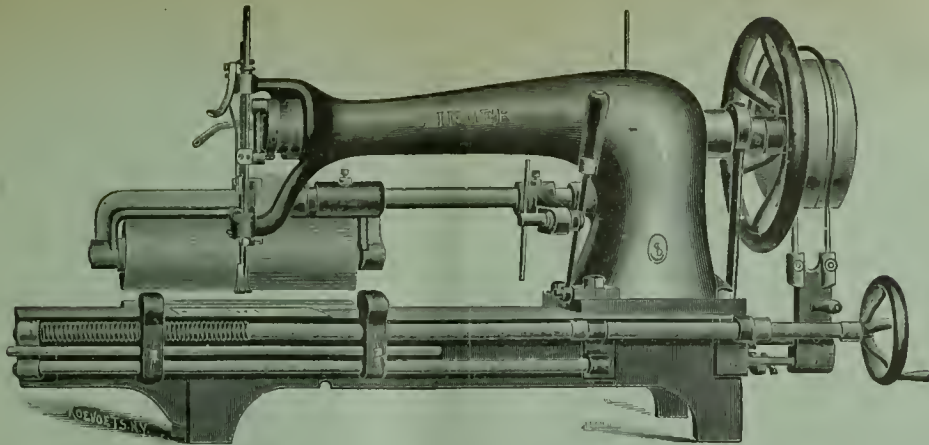


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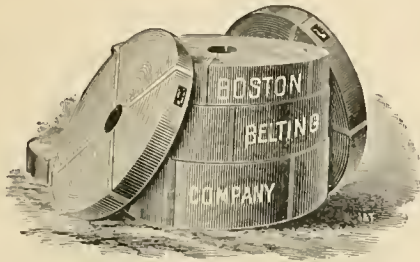
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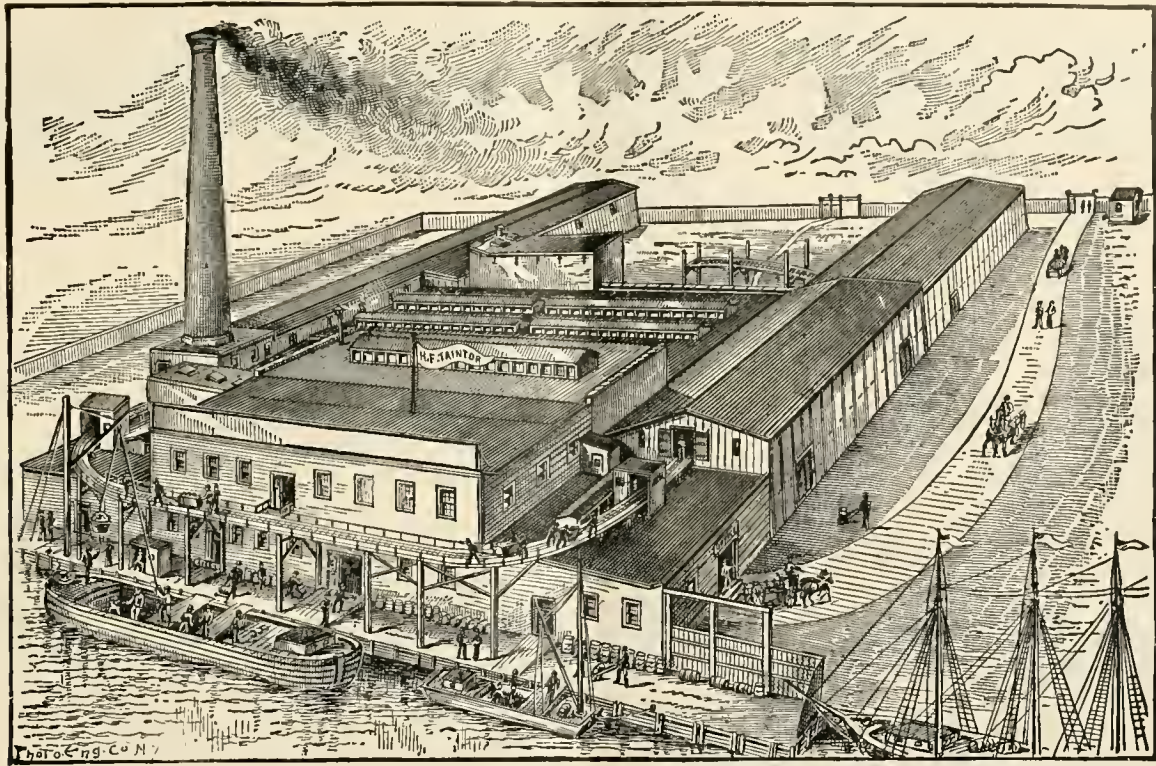
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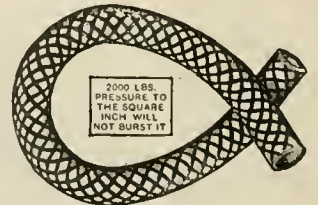
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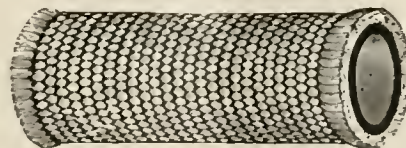
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OUTLOOK OF THE RUBBER INDUSTRY.

WHILE the consumption of crude rubber in the United States within a year past has fallen below the highest figure previously reached, there have not been for decades more manifestations of activity in the industry, or of preparation for increasing business than now. The reduced consumption of rubber may be attributed in part to the reduced demand for rubber footwear during recent seasons unfavorable for that line. Another reason why last year's consumption was less than during the year before—when the "high water" mark was reached—was that 1899 was a year which witnessed complete recovery from a period of business depression, and during which all lines of production became more active. Delayed purchases of rubber goods were made then, and depleted stocks were filled out. For a brief time, perhaps, the rubber business may have been overdone; at any rate there were conservative manufacturers who did not, twelve months ago, look for an immediate repetition of such a year's trade. Yet no complaint has been heard of the results of succeeding business.

It is worth noting that now practically no rubber factories in the country are standing idle. There are not even any factories for sale, except in the sense that most businesses can be bought, if the offer is high enough. There is even a scarcity of second hand rubber machinery in the market. These are all indications of a favorable condition, both existing at present and for prospective trade. There is also to be taken into account the new factories, the planning or opening of which have been reported lately in our pages, pointing to confidence in a continued good demand for rubber goods, and that on an increased scale.

Not the least interesting feature of the industry, however, is the evidence at every hand that long established factories, even where no particular extension of capital or facilities is reported, are alert to improve their methods or their plant to the utmost, realizing that only by such measures can the most strongly entrenched firms hope to meet the keen competition in selling goods which nowhere has been more marked than in the rubber line. The question of cost of production is being studied more thoroughly, and more attention is given to the saving of time or of labor, or to preventing waste of material—all of which tend ultimately to a better showing on the balance sheet.

All in all, the rubber industry is on a good basis. With constantly improving processes, with frequent betterments in mechanical appliances, and with more economical methods in management—with the advantages of production on a very large scale, and the specialization of work by which a given factory is devoted constantly to the production of a single line of goods—every condition points to the future manufacture of rubber at prices calculated to extend consumption, while assuring the producers a sufficient profit. This will have an ultimate favorable bearing upon the exports of American rubber goods, which lately have begun to expand at an encouraging rate.

RUBBER SHOE PRICES.

ONCE a year, about this time, the whole shoe trade becomes anxious, if not upset, over the question of prices of rubber footwear for the next twelve months. Now if taxes fluctuated wildly from year to year, the average citizen might feel concern over the fixing of the rate; or if there were stated periods for settling the price of steel, the large users of this material might go slow in making contracts, with the approach of expected changes. But why such ado should be made about the prices of rubbers is not so clear.

The customer doesn't make any move in the matter. Mr. A. might object to paying 75 cents for a pair of rubbers if he knew that Mr. B. had bought the same quality for 70 cents, particularly if it had been in the same store. But if the dealer charged the same price to all customers alike, the average citizen would pay that price without complaint—if he needed the rubbers. If he didn't need them, he would hardly buy at any price. After all the talk about prices of rubbers, there really is no fixed price. In New York the same article is retailed up and down Broadway at all the way from 65 cents to \$1 a pair, according to the character of the first store one happens to drop into after a snowstorm.

The fact is that the manufacturer can fix prices only in making the first turnover of his product. No sort of contract will prevent a jobber from "cutting" whenever he feels like it, and as for the retailer—if he can attract a crowd to his store by giving away rubbers, with a prize besides, no law can be enforced against him. Then why should not the manufacturer stop at fixing a price on his product that will yield a fair profit for himself, and leave the rest to other heads to worry over? The makers of leather shoes don't fix prices for retailers and for the wearer. The man who wants a pair of leather shoes buys what he thinks he wants and pays the price, regardless of how many other different makes in the same store may be higher or lower in cost. There is little more need for rubbers to be uniform in price. As a matter of fact, everybody knows that there are rubber shoe manufacturers who habitually ask more—and receive more—for their goods than the standard prices, and presumably jobbers and retailers are able to sell them for more, or else the manufacturer would have to conform to the standard price to the jobber.

This issue of THE INDIA RUBBER WORLD must go to press before the customary announcement to the trade of footwear prices is due, and there can be no comment here, therefore, on whatever action may be taken. For that matter, we have no desire to comment on anybody's price list, at any time. But there is one view to which we have held at all times—that it is not good business to make and sell any product at a price that does not promise a profit. And another point to be insisted upon is that no reduction in rubbers will ever increase the consumption. Rubber shoes are the last thing in the world that the average person will buy and store away just because they are cheap. He will rather run the risk of having to pay more than

they are worth when the next snow comes. And if a man should go about wearing rubbers in fine weather, only because they were bought at a bargain, his friends would probably inquire into his sanity.

In all other lines of rubber goods there are different grades offered at different prices, to meet different wants, and the customer who prefers high grade goods pays the price, without regard to what else the market may afford. It would seem that a good policy with regard to rubber footwear, instead of sinking to a dead level of uniformity in price—thus preventing any manufacturer from making a better grade than his associates under the agreement—would be for each to strike out for himself, make a good quality of goods, and charge what they were worth. There have been and are now in the trade examples of firms able to control a good demand on the basis of merit rather than of low prices.

A reduction in prices as a general trade measure—without some other clear reason being given—is an indication of one of two things: either that profits have been too big before, or that a trade war is on, the result of which usually is disastrous to everybody engaged in it. As for the consumer, even if benefited for the moment by the reduction, he must make good the losses sustained by the warring manufacturers by paying unduly high prices in the end. With an article so cheap as rubbers, and in such great demand in normal weather, it would seem that in no other branch of manufacture ought it to be easier to maintain prices at or above a profitable level.

THE NAME MANAOS SEEMS DESTINED to become as familiar in connection with rubber as that of the older city, Pará. The feeling of rivalry on the part of Manáos has grown with the development of rubber gathering in the great upriver state of which that city is the commercial and political capital, and the hope is entertained that in time it may outstrip Pará. Our news columns lately have mentioned the new regulations in the state of Amazonas—a district fifteen times as large as the state of New York, and the largest rubber producing state in the world—which require all rubber gathered in the state to be handled in Manáos, with the idea of expanding the business of that city. The growing importance of the place is indicated by the fact that its population was declared, by the census of December 31 last, to be 52,900. Only eight years ago it was estimated at 20,000. On January 1, 1852, when Amazonas, a former district of Pará, became a separate state, there was no Manáos; at least there was only the native village Barra, with 3848 inhabitants. The place was visited in that month by Lieutenant William Lewis Herndon, U. S. Navy, in his exploration of the valley of the Amazon made under the direction of the government, and though he remained six weeks at Barra, and afterwards made careful observations all the way down stream, he failed to find any rubber gathering in the vast Amazonas territory. The great growth of the place since then has all been due to the discovery of rubber there, and the world's increasing demand for this product, and doubtless the development here referred to will be found repeated many fold before another half century. Not the least important feature of the coming development is likely to be the placing of the rubber lands under private control and a more intelligent, systematic, and economical supervision of rubber gathering, with the result of rendering supplies more certain and regular, and prices somewhat lower and less liable to fluctuation.

THE OBITUARY RECORD.

COMMODORE ALEXANDER HENDERSON.

THE late Commodore Alexander Henderson, whose death was reported recently in THE INDIA RUBBER WORLD, and of whom a portrait is presented herewith, was born in Washington city, July 22, 1832. He was the son of Colonel Thomas Henderson, U. S. A., and the grandson of Commodore Truxton, U. S. N. One of his brothers was an army officer, and one was a naval officer; one of his sisters married General Eastman, U. S. A., and another was the wife of the late Rear Admiral Thomas T. Craven, U. S. N. Rear Admiral Henry L. Howison, now living in Yonkers, New York,

and Colonel J. V. D. Middleton, U. S. A., are also his brothers-in-law.

Alexander Henderson entered the navy as a third assistant engineer in February, 1851, and completed nearly half a century of service as a commissioned officer of the navy. He was in Commodore Perry's fleet that visited the Orient in 1853-55 and opened Japan to intercourse with western civilization. He

served in the Mediterranean in 1856-57 and took part in the Paraguay expedition in 1858. Though a Virginian, of one of the old Southern families, with many of his relatives in the Confederate service, Mr. Henderson served the United States throughout the civil war. He was in most of the bombardments undertaken by the Atlantic blockading squadron, and, while serving on the James river, took part in the siege of Petersburg, Virginia, and the capture of Richmond.

In 1882 Mr. Henderson was made the engineering head of the naval advisory board, and the engines of the first vessels of the new navy were designed by him and built under his supervision. When the work of the advisory board was finished, in 1889, he became chief engineer at the Boston Navy Yard, and filled that office until shortly before his retirement with the rank of commodore, in July, 1894. The day after his retirement from active service he went into business as treasurer of the Manhattan Rubber Manufacturing Co. (New York), which company had been incorporated, under the laws of New Jersey, in the October preceding. Mr. Henderson continued to fill this position until a few months ago, when he was succeeded in it by his son, Eliot M. Henderson. While interested in this company he organized and conducted a steamship company, running a line of vessels along the coast of Maine.

When the Spanish war broke out Commodore Henderson volunteered his services, and again returned to active duty, serving until the close of the war as fleet engineer of the auxiliary navy. His three sons, and his son-in-law, William H. Stayton, also served in the navy during the same war.

Commodore Henderson was twice shipwrecked and had yel-

low fever in foreign ports three times, yet he was until last year rugged and active. He lived in New York from 1894 to 1897, when he removed to Yonkers, New York, where he died January 12. The funeral was held in St. Paul's church, Yonkers, on January 15, and the interment was private. He leaves a widow and five children, all of whom live in this part of the country. The children are Eliot M. Henderson, Alexander Henderson, Henry H. Henderson, Annie H. Stayton, and Elizabeth H. Henderson.

SKETCH OF JAMES P. LANGDON.

THE late James Pierpont Langdon, president of the New Brunswick Tire Co., whose death was reported in the last INDIA RUBBER WORLD, was born in 1823 at Bethlehem, in the Naugatuck valley, Connecticut. He was the son of the Rev. John Langdon. His early life was spent on the farm of his grandfather, James Pierpont, at Litchfield, Connecticut, and at the age of 18 he became employed in the drug store of a brother at Naugatuck. In 1847—in his twenty-fourth year—he became connected with the Goodyear's Metallic Rubber Shoe Co., at

Naugatuck, then lately licensed to make shoes under Charles Goodyear's vulcanization patents. He there became well acquainted with Mr. Goodyear, whom he assisted frequently in experiments with rubber. Mr. Langdon thus obtained a thorough knowledge of the manufacture of rubber goods, and in 1854 he was tendered, and accepted, the position of super-



intendent of the New Brunswick Rubber Co., at New Brunswick, New Jersey. In 1840 Peter C. Onderdonk and Johnson Letson had become partners in the rubber business at the latter place; in 1846 they were licensed to make rubber shoes; and in 1850 the New Brunswick Rubber Co. was organized with Mr. Letson as president—a position which he filled until his death, in 1885. Martin A. Howell was then elected president of the company, and Mr. Langdon vice president and manager. Upon the death of Mr. Howell, in 1889, Mr. Langdon became president, still retaining the position of manager, which offices he held up to his death, on February 28 last. In 1892 the New Brunswick Rubber Co. became a part of the United States Rubber Co., Mr. Langdon serving for several years as a director of the latter company. Early in 1896 the New Brunswick factory took up the manufacture of tires instead of shoes, and is now operated under the style of the New Brunswick Tire Co.

Mr. Langdon's long residence in New Brunswick made him one of the best known citizens of the place, and his active interest in the welfare of the community caused him to be held in

universal esteem. Few men were more charitable. He was senior ruling elder in the Second Presbyterian church, president of the New Brunswick Humane Society, and president of the Charity Organization Society. The funeral on March 1, was attended by the leading citizens and by many persons from a distance. Mr. Langdon had been a widower since 1891. His fortune is left to an unmarried daughter and a son—Samuel P. Langdon, superintendent of the factory of the Gutta-Percha and Rubber Manufacturing Co., of Toronto, Limited.

The New Brunswick Rubber Co. were incorporated April 18, 1850, under the New Jersey laws, with \$60,000 authorized. They began business with \$30,000. On May 13, 1881, it was increased to \$300,000. The incorporators were: Charles P. Dayton, Johnson Letson, Benjamin D. Stelle, James Hutchings, Peter C. Onderdonk, Jonathan C. Ackerman, John Acken, Martin A. Howell, William McDonald, Peter P. Runyon, Lewis Stout, and James Bishop.

BENJAMIN F. TAFT.

BENJAMIN FRANKLIN TAFT, so long known to the rubber trade through his connection with the Rubber Manufacturers' Mutual Insurance Co., died March 22 at his home in Ayer, Massachusetts, with which town he had been identified for more than 50 years. He was born in Northbridge, Mass., on August 17, 1823, the son of Benjamin and Syrena (Batcheller) Taft. He was educated in the public schools of Northbridge and the Usbridge and Berlin high schools, and at the age of 15

went to work in a store at Northbridge. At 19 years he went to Spencer, Mass., and engaged in the dry goods business; then to Worcester, and, in 1849, to Sutton, where he was married, on July 3 of that year, to Miss Caroline E. Whiting, who survives him. In 1852 he settled in Ayer (then South Groton), where the rest of his life was spent. For many

years he was agent in that town and in Worcester for the Ames Plow Co., and their predecessors in business, Oliver Ames & Sons, Oakes Ames, and H. A. Bean & Co.

A brother of Mrs. Taft, the late William B. Whiting, had become prominent in the management of factory mutual insurance companies, and in 1876 Mr. Taft became interested in this business, as secretary of the Cotton and Woolen Manufacturers' Insurance Co., then just organized, with offices in Boston, of which he was, at the time of his death, vice president and treasurer. At the offices of this company, on October 30, 1884, was held a meeting of rubber men, out of which grew the Rubber Manufacturers' Mutual Insurance Co., incorporated November 4 in that year, and which commenced business January 15, 1885. The original meeting was attended by George H. Hood (Boston Rubber Co.); I. P. T. Edmunds and James Bennett Forsyth (Boston Belting Co.); E. S. Converse (Boston Rubber Shoe Co.); H. C. Morse (Revere Rubber Co.); E. H. Clapp (E. H. Clapp Rubber Co.); R. D. Evans

(American Rubber Co.); Wheeler Cable and Freeman Wright (Cable Rubber Co.); Benjamin F. Taft, and his son, Benjamin Taft. Mr. Taft was elected secretary and treasurer of the new company; later he filled also the office of vice president, Mr. Converse being the president. Mr. Taft was also treasurer of the Whiting Mutual Insurance Co., and president and treasurer of the Industrial Mutual Insurance Co., organized in 1890. The four companies named are all large and prosperous, having in their directorates the most prominent business men in New England, and carrying risks amounting to nearly \$100,000,000. Their success has been due largely to the capacity and energy of Mr. Taft.

The funeral occurred on March 25, at Ayer, very quietly, being attended only by members of the family. Besides the widow, all the children survive—one son and four daughters. On July 3, 1899, was celebrated the golden wedding of Mr. and Mrs. Taft, at which time a very large number of their friends, inside and outside the rubber trade, attended or sent cordial greetings. Personally Mr. Taft, who was a very large man, was positive in manner, but kind, and he was long an acknowledged expert in insurance matters. He was an unostentatious man, never seeking publicity of any but his business affairs. For example, the first time he ever consented to the publication of his portrait was when it appeared in THE INDIA RUBBER WORLD some six years ago.

Mr. Taft was a member of Robert Burns Lodge, I. O. O. F., of Ayer; a charter member and first Master of Caleb Butler Lodge, A. F. and A. M., of Ayer; and of Thomas Royal Arch Chapter, of Fitchburg.

RUBBER GATHERING IN BOLIVIA.

THE Chicago Bolivian Rubber Co. (Chicago) has been mentioned already in this paper as organized to collect rubber on a large scale on concessions in Bolivia, the rubber collected being shipped via Mollendo, on the Pacific coast, to Europe. A letter from the company's offices to THE INDIA RUBBER WORLD states: "Our president, Mr. J. Jackson Todd, of this city, recently returned from a tour of inspection of our property in Bolivia, which he reported better and larger than had been represented. We have a large force of Indians in the woods, and expect to get out a large quantity of rubber during the current year. The rubber is of fine quality."

The Belgian company, L'Abuna, formed to develop a rubber property bought from Señor Ballivian, of Bolivia, report that this property is one of the finest on the upper Madeira. Some 2000 *estradas* of trees are embraced, which will afford employment for 1000 workers, with a possibility of gathering 7 kilograms (=17½ pounds) each per day. The season for employment is estimated at seven months in the year. Besides the rubber proper (*Hevea*), the lands contain a large number of Caucho (*Castilloa*) trees, which it is proposed to work. It is intended to send at least 150 collectors into the forest this season, besides such native labor as can be secured. During the past season twenty men, without supervision, gathered 21,560 pounds of rubber, or 1078 pounds each.

* * *

NEWS reached London on February 12 of the complete pacification of the Acre country, the rich rubber country some time in dispute between Brazil and Bolivia, and more recently the scene of an attempt to establish an independent "Republic of Acre." The insurgents have been definitely subdued, and the district remains in control of Bolivia, in accordance with a treaty concluded a short time ago with Brazil, defining the boundary between the two countries.



THE MANUFACTURE OF RUBBER PACKINGS.

By John S. McClurg, M. S.

WHENEVER a large number of the operators of the manufacturing industries become compelled to use any certain article in the operation of their respective plants, that article naturally becomes an object of interest to them. Is there a mill or a factory which can be operated without rubber packing being used somewhere within its confines? No.

Every engine and every pump must have its joints made tight by an application of rubber packing. Rubber packing is, therefore, an interesting article to the whole of the industrial world.

In this connection it may be interesting to state that just in proportion as rubber packing is so universally used and useful the details of its manufacture and construction are as little known to the great multitude of consumers. There is no manufactured line to-day about which so little is known by the general public—and even the consumers—as the rubber line.

As in the case of most products of the manufacturers' skill and enterprise, there is an almost endless variety of rubber packings on the market. These varieties naturally range in quality from the cheapest shoddy packings to the medium and best grades. Every manufacturer of mechanical rubber goods turns out his own brands of packing and claims for them such merits as will have the greatest weight in influencing a prospective customer.

In purchasing a rubber packing which will best meet his needs the consumer must rely, more or less, upon his own knowledge of the quality, based either upon experience or else on the appearance of the goods. It is not the purpose of this article to praise or to recommend any particular brand of packing, but to give to the readers of *THE INDIA RUBBER WORLD* considerations on the methods of manufacture of this most useful class of goods.

A question of vital import to every manufacturer is: "What disposition can be made of the scrap waste and trimmings which accumulate about every factory?" To no class of manufacturers is this question more important than to the manufacturer of rubber goods. The proper solution of this important problem has meant to many industries a vast increase in wealth. In many cases this waste product—which formerly went to the sewer or scrap pile—is now converted into useful merchandise, and in many instances the revenue derived from this source has proved sufficient to defray all the expense of operating the factory. In the mechanical rubber industry rubber packing is one of the principal products obtained from the scrap and trimmings collected from the various departments.

To the class of goods commonly known as rubber packing, the various kinds of corrugated and embossed mattings also really belong. They are so nearly identical in conformation, construction, and manufacture that they cannot conveniently be separated into different classes. We will begin, for convenience, with the cheaper grades, and take up each succeeding kind according to grade.

It is essential first of all that every factory, in order to be economically operated, should provide each department with suitable receptacles to receive all the waste and trimmings which accumulate in the manufacture of the different products. These receptacles can be easily removed each day and carried to the mill room, where their contents can be sorted over.

Pieces which cannot be worked over again into the original compound are piled away separately to be milled and ground together. This is not only economical, but it also keeps the factory clean and in good order.

The waste having been sorted, it is ready to be milled. The mill should be warmed up to a moderate temperature and the scraps and trimmings worked through it until they become thoroughly ground and mixed in batches of about 50 pounds. It is important that the batch should become well ground and perfectly smooth, to insure a packing free from lumps and other defects. These batches are piled away and are ready to be mixed with other compounds.

The very cheap grades of packing consist of three kinds: C.O.S. (cloth one side), C.B.S. (cloth both sides), and C.I. (cloth insertion). In most cases the two former kinds have a combination of the latter; as, C.O.S. and C.I. The reason for using these insertions and outside coverings of cloth is that, in view of the fact that the quality of rubber entering into the construction of cheap packings is so poor, it must be strengthened. To use rubber alone for this purpose would be too expensive; hence cloth is inserted to make the packing strong and prolong its wearing qualities.

The method of preparing the cloth, by the way, is the same for all kinds used in packing; hence this description will cover all the different uses it may be put to. The cloth comes in rolls about 38 inches wide and usually about 110-120 yards long and is a good heavy sheeting. It is passed over a series of heated iron rolls to eliminate all the moisture which the sheeting absorbs in transportation and storage.

The sheeting is then taken to the friction calender and coated, that for use in insertion on both sides, and that for the outsides on one side only—that side which is placed next to the gum. The reason for covering this sheeting is to cause it to vulcanize securely to the center and facing of the packing.

The center is next prepared. This part of the packing is made from the batches composed of the scrap and trimmings, and should have some shoddy and compound mixed with it to give it the proper body and firmness. These batches are now warmed up on a mill. The calender is also heated and the rolls adjusted to make the sheet the thickness desired.

Suppose it is desired to make a roll of C. O. S. packing. Hang up a roll of sheeting which has been frictioned on one side, so it will run evenly through the calender, and begin running the warm scrap compound into it. When the compound has reached the proper heat, start the sheeting between the rolls and a smooth even coat of gum is thus spread over the surface of the sheeting.

During this process care should be exercised that all bubbles are pricked to permit the air to escape and to allow the gum to spread evenly over the sheeting. This will prevent blisters and blemishes in vulcanization. Next comes the outer covering which—for convenience—we will call facing. This should be of a better quality than the center, as it is the point of contact when in use, and requires a better compound to give it more strength and longer life. This compound is mixed and milled and laid aside a few days to dry and harden before using. As soon as it is ready, warm up the batches on a warm mill and then feed it into the calender.

Again hang up the partially completed roll of packing and

pass it once more between the calender rolls. The new strip or facing now spreads over the surface of the packing and completes the process. Care should be exercised again in regard to bubbles of air, as indeed should be the case whenever a new layer is applied to any roll.

The calender rolls should always be adjusted so as to make the sheet a trifle thicker than is required in the finished goods. This is to allow for shrinkage—and also for compression which the packing undergoes while confined between the plates of the hydraulic press.

Next we may take up the C. I. packing, which differs from the above in several ways. The sheeting used in this packing is frictioned on both sides, as the rubber is applied to both sides of the cloth. With this packing we have two facings, also, instead of one as in the above.

We now take this roll of sheeting and hang it up in front of the calender as before, then take the batches—those made from the trimmings—and warm them up on the mill as before, and when at the proper heat feed into the calender, at the same time the sheeting is passed into the rolls and the compound spreads over the surface of it. When one side of the sheeting has been covered, turn the roll around and run a coating on the other side. Continue this process until the desired number of plies is obtained. Thus the sheeting becomes imbedded between the various layers of rubber. These layers are calendered sufficiently thin to permit of the two facings being still added to the outside and yet have the desired thickness when finished. All is now ready for the outside layers or facings, and these are applied to the roll as described in the case of C. O. S. packing, except that a facing is run on each side of the roll instead of one side as in the former case.

The third kind, or C. B. S. packing, is constructed in much the same manner as described, the exception being found in the facing, which, instead of being composed of rubber, has a layer of sheeting, frictioned on one side, applied to each side of the sheet of packing. The friction side of the sheeting, of course, goes next to the packing. This completes the construction or building-up process.

These three kinds of packing constitute the so-called cheap grades of sheet packing, and the vulcanization is the next process it undergoes. This description has been reserved until now, as the curing process is the same in case of all the three different kinds.

The roll of packing is now taken to the hydraulic press; but before this process begins the surfaces of the packing are dusted with powdered talc or soapstone, to prevent the plates of the press from sticking to it.

There is used generally for this purpose a belt-press. This press is made in various lengths; but, for convenience, we shall select one of 25 feet. The upper plate of the press is made stationary by numerous supports or legs on either side, securely fastened into the floor or base of the press. The lower plate is made to move up and down between these two rows of supporters, so that when raised to the level of the upper plate the two plates will meet perfectly flush. The lower plate is raised and lowered by means of hydraulic pressure. These plates are several inches in thickness, and are hollow to permit steam to circulate evenly against the surfaces of the plates for the purpose of heating them.

In use, first heat the plates of the press to the temperature desired. The bottom plate is then lowered and the end of the packing pulled through to the opposite end of the press. Now turn on the hydraulic pressure, and the plate rises until the packing is firmly pressed against the upper one where it remains until sufficiently cured.

This done, again lower the plate and pull through one more length of packing, and so on, until the roll is completed. The pressure of these polished plates gives to the packing a smooth surface while the heat is curing it. The roll should now be taken to a long zinc covered table, where the rough edges are trimmed off with a sharp knife; giving the packing a neat appearance. One of the most important features in the manufacture of cheap packing is this curing process. The tendency is to over-cure, and this should be avoided; because cheap packing, being composed largely of shoddy, and in many instances semi-cured stock, will very naturally become hardened with little age. Therefore, it should have a soft cure to insure pliability and longer life.

[CONTINUED NEXT MONTH.]

DRYING WASHED RUBBER.

BY AN ENGLISH CONTRIBUTOR.

THE subject of the drying of washed rubber is an important one, and I read what Mr. Pearson has to say on the subject with much interest. In the present state of business it would of course be quite impossible to revert to the old order of things, and allow the rubber a long period of time for drying and maturing, even if the advantages attending such a proceeding could be considered as demonstrated beyond doubt. It may be taken that the average duration of time occupied in drying in British works is five or six days, though this would be shortened, if there was plenty of drying room available, by rolling out the sheets thinner. Nine-tenths of the water can be removed in a warm chamber supplied with a fan in the space of a few hours, as the bulk of the water is loosely attached to the surface of the rubber. It is the small portion which is in the pores of the rubber which is difficult to remove, as, if not chemically combined as a sort of hydrate, it is certainly tenaciously held. The more or less speedy removal of this portion depends upon the thickness of the sheet, and the heat of the drying chamber, the presence of a current of air doing but little to effect its removal. One prominent British firm dries its rubber in half the time taken by a neighboring rival firm by rolling it out much thinner, but then the one firm has plenty of available drying room, while the other is somewhat cramped and would find any extension a decidedly expensive proceeding. Where there is a rush of business the amount of time taken in drying is a matter of great import, and considerable interest therefore attaches to the process of drying for a few hours at a high heat, which is mentioned by Mr. Pearson as having been done for some years in a certain works. I have not heard of anything of the sort being tried in England, and cannot imagine that it would prove desirable for any but the best rubber. I did not notice any reference in the book to the vacuum system of drying rubber, originating in Germany, and which has been so persistently exploited and advertised. It has certainly been adopted by one or two firms who did not allow themselves to be alarmed by the initial outlay, but it cannot be said that it has been extensively adopted in Great Britain, whatever may be the case elsewhere, and I am inclined to believe that first cost of plant is not the only fact which has militated against its wider use.

A NEW schedule of export duties was to go into effect in Colombia on March 1, in which the rate levied upon India-rubber is 5 pesos per quintal of 100 pounds. The peso was quoted lately at 42.7 cents, United States gold, which would make the duty equal to \$2.13½ cents per 100 pounds. The export of Colombian rubber is about 1,000,000 pounds a year.

THE ELECTRIC DRIVING OF RUBBER MILLS.

By J. O. DeWolf.

THE last years of the past century have been so full of changes that affect our modes of living, carrying on business, and manufacturing, that forces which for centuries had lain dormant, or only rendered us a small part of their possible power, are now so commonly used that we give them but little thought. The horse, as a motive power for street cars, is almost a thing of the past, and of such rare occurrence that it attracts more than passing attention, while the advantages of electricity for street car propulsion are so obvious that one does not require to be an engineer to appreciate them. We all remember well the difficulty with which the old time cars climbed the hills of our cities, even with the assistance of an extra horse, and how, when the tracks were obstructed by snow, they made slow progress, even with four horses instead of two. Contrast this with the ease with which the electric cars climb hills—even those too steep to be attempted the old way—and through snow blockades; also the perfect control which the motorman has of his car, not only in starting and stopping, but also in varying the speed.

A part of the vast power that for ages has plunged unused over the Niagara falls now generates electricity that is carried to factories miles away, and there furnishes them with their motive power. Such a transformation of energy from the point where it is found to any point where it is desired for use, commends itself at once to the observer, and suggests changes in the methods of driving factories no less radical than those wrought during the last fifteen years on street railways. As the electric method of driving is already in such successful practical operation in factories of different kinds, it is fitting here to consider its application to rubber mills, and note the great advantages possessed by this modern method over the methods previously used.

Starting in the engine room of almost any rubber plant, we find a large and comparatively slow speed engine driving the mill room through a set of gears or by a rope drive. As the main shaft in the mill and calender room runs about 50 to 60 revolutions per minute, it is necessary to reduce this speed materially from that of the engine itself. The slow speed and large power required in this part of the plant make necessary large and heavy gearing, or wide and large pulleys. The loss of power through this drive or gearing is also a constant drain on the coal pile, but not the only one, for the long line of heavy shafting at about the floor level uses up at its best a valuable and considerable amount of power, and any settling in the bearings, that is sure to occur, adds greatly to this friction loss.

What rubber superintendent does not remember hours of shutdowns or night work in repairing the driving arrangements

connecting his mill room shafting with his engine, and the time spent in aligning this shaft, although not until many horse power had been lost for days or weeks. Then, coming to the mills and calenders, we find them running at one or two fixed speeds with no means of changing the speed. Now turn to a similar plant, electrically equipped. In place of the large belts ropes or shafting, and gearing to carry the power, we find wires running to any part of the plant where power is desired. In the mill room the mixers and warming up mills are grouped together and several driven by one motor. The friction of a large gear or belt drive is entirely saved, and also the friction, of the long line of main shafting. The saving in the cost of these items and the necessary foundations for them is a point to be carefully noted. Whenever it is desired to shut down a group of these mixers, the motor is stopped, and no power is used by them. There is also a saving of all that friction lost in driving the whole of a large main shaft when it is only desired to run a few mills.

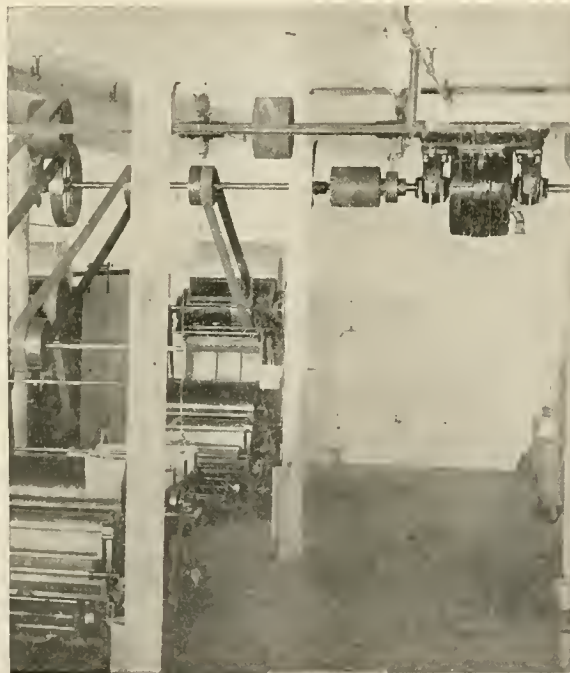
The calender having its own motor, can be run as a street car is run, and instead of using the nearest proper speed that can be got out of perhaps two combinations, you have unlimited control and speed your calender rolls to suit the stock you are running, making a great saving not only in production, but also in perfection of work.

When the question of an addition to a plant comes up, where the electric drive is used, you are not tied down as in the old systems, and it is not necessary to continue the mill room in line with the old one or figure how to take more power from an already overloaded shaft. Nor is it necessary, when first installed, to use a larger shaft than necessary in order to allow for future extension.

The extension of a few wires and the installation of new motors gives power whenever required.

It is not within the scope of this article to go fully into the application and merits of the electric drive, but it must not close without reference to that important feature, the centralizing of power plants. In all large and growing factories power has to be carried to remote parts, and in many cases this has resulted in the installation of separate engines, and perhaps even new and separate boiler plants to run them. Such divisions of a power plant not only render its running more expensive, by reason of the increased force of engineers and firemen, but also on account of the decreased efficiency of small engines. If it is attempted to carry the power mechanically for a long distance there is of necessity a considerable loss in friction, and where belting or ropes are used a variation in speed due to the slip under different atmospheric conditions.

By the use of the electric drive the entire power plant can be centralized at the most convenient point, and large and econ-



MOTOR DRIVING OVERHEAD SHAFTING.

omical engines used. The total horse power of such a central plant can be much less than the combined horse power of isolated engines, as each of the latter must be of ample size to carry the maximum load that will come on it at the same time.

Through electric wires the power is conveyed to any point at any level or at any angle with the other buildings, and when any department is shut down there is no loss due to the running of any unnecessary belting or shafting. Nor is it necessary to use large and heavy shafting with the idea at some future time of coupling to it and extending the plant, for the addition of another motor gives power where it is desired, and cheaper than it can be carried by long lines of heavy shafting.

Another point to be noted is the saving in cost of the electric lighting, for current for the lights can be taken from the same generators that furnish the power current, and as they are large machines the cost is less than the same current generated by a small independent lighting generator.

To sum up briefly, the electric drive *saves at its installation*:

1. In the cost of the engines, as more efficient types are used under more favorable conditions.
2. In the cost of the shafting, as it is not used to transmit large power long distances, this being done by wires and motors.
3. In the cost of foundations, as no heavy gearing or large belt drives are used, and no continuous lines of foundations are required to support a long main shaft.

The electric drive *saves during its operation*:

1. By delivering power to the machines more efficiently and cheaper than any other method.
2. By preventing the constant friction loss due to running a lot of main driving belting and shafting at all times, even though only a few machines are in use.
3. By giving a control of the speed of the machinery whenever desired, and thus running at the proper and most economical speed to suit the different changes of stock.
4. By centralizing the power plant and using large and efficient engines.

The electric drive *affords opportunity for an increase* in the size of the plant:

1. Because the power can be carried to any place or any distance regardless of location, and is not limited by the size of main shafting originally put in.
2. Because the location of the engine and the buildings they are to drive is not limited.

Such, in brief, are some of the many advantages of a method of driving that is destined to supersede all others and materially change the organization of our rubber factories.

QUALIFICATIONS OF SALESMEN.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am under the impression that much good will obtain, and benefits be secured to the salesman and to the dealer in the discussion, now going on in the columns of your valuable paper, on whether a factory training or a familiarity with the manufacture of rubber goods is advantageous or detrimental to the salesman in that line.

I should say that it is far better for a salesman to possess this factory knowledge than not to have it. It does not follow that in the possession of this knowledge he must scatter it broadcast along his travels, nor enter into discussions with the dealer. His business tact should point out to him the error he would be committing in doing this. The great benefit to be derived by the salesman is obtained in the judicious use of this knowledge. Many opportunities are afforded to the salesman where this knowledge is of value to him. The confidence of

many dealers—and also their trade—has often been gained as a result of some small bit of information imparted in simple language.

Many chances are afforded the salesman to assist the dealer in answering letters regarding some special form or a suitable stock for certain work. Here again his knowledge helps him and the dealer. In the matter of reclamations for damaged goods, the possession of this knowledge is often most valuable.

A salesman cannot know too much about the goods his factory is competing with, and with a knowledge of the manufacture he can and does gain much information which helps to break down the barrier between the dealer and salesman.

It would be folly to say that there are no good salesmen except those who have this factory knowledge—for there are many. And therefore, while I do not hold it to be absolutely essential, it is certainly a most valuable possession. On the whole I should say that the salesman with factory knowledge, everything else being equal, is best qualified and a better salesman.

A SALESMAN SINCE 1882.

Erie, Pennsylvania, March 18, 1901.

* * *

ONE of the rubber salesmen who has contributed to our columns of late his views regarding the qualifications of salesmen, was asked what he thought of the idea of an organization of the fraternity on some such lines as have been followed by salesmen in some other branches of trade. He writes:

TO THE EDITOR OF THE INDIA RUBBER WORLD: You ask: "Could an association be formed among salesmen connected with the rubber trade which could be made of practical assistance to its members?" Sincerely, I believe this organizing business is much overdone. We have about reached the limit, with the Society for the Promotion of Angora Cats and the Organization for the Prevention of Cruelty to Farmers. We are organized to death. But, seriously, there is strength in numbers; a crowd is an inspiration; association with our fellow workmen would be helpful, without doubt. The practical portion of this question, however, is the possibility of making such an organization helpful to its members. To maintain an organization of any sort, sufficient benefit must be returned to its members to insure continued interest. These benefits may be returned in various ways. They may be social, or financial, or in a manner educational.

To make perfect the social benefits, frequent meetings in localities adjacent to the homes or business of members would be necessary. In order to attend such meetings, business would have to be dropped, and in many cases, if not in most cases, those attending would have to make long journeys at much expense and inconvenience. The case of local social events is not a comparable case; I am discussing a national organization. The second benefit—the financial—is an invisible and intangible one, and not to be considered by itself, and could not be reckoned upon. If such an organization could be maintained at all, it would be by reason of such education as undoubtedly would result from intercourse between members. But this appears, after thoughtful consideration, to be almost without the bounds of the purpose of such an organization as your question presupposes.

Perhaps your recent contributor who thinks so highly of the qualification of "factory knowledge" will describe how he would supply this lack by joining a "National Association of Rubber Goods Salesmen." Personally, I would wager that my knowledge of the rubber business would be greater if the same time and money was spent in a trip to *one factory*, and much more practical.

F. H. H.

March 12, 1901.

THE INDIA-RUBBER INDUSTRY IN GREAT BRITAIN.

By Our Regular Correspondent.

NO attempt can be made in the space at present disposal to treat this matter adequately, but a word or two may fitly be said, as from what has appeared in THE INDIA RUBBER WORLD it is clear that the ideas which purchasers of several lines of rubber goods hold are much the same

the world over. I have discussed the matter of returns with several British manufacturers who are all emphatic as to the unreasonableness of the demands which customers are apt to make. "When a man's hat or coat gets worn out or shabby they are straightway replaced by new ones," said a waterproofer to me recently; "but if his macintosh gets worn out, he is apt to resent this and lodge a complaint against the maker." Now this complaint need not be taken as showing a regular condition of affairs, but it certainly is not the outcome of fancy. The difficult point for decision in such claims is as to whether the goods have had fair treatment. In some cases a waterproof coat is only worn on occasions, while in others it takes the place of the regular overcoat and is worn whether the weather is wet or fine. Manifestly in the latter case it cannot be expected to retain perennial youth, nor can it be compared with one which has seen but occasional service. The question as to what constitutes a reasonable period of life for rubber goods is certainly a very complex one, so much depending upon the conditions of use, a matter which is of course quite outside the manufacturer's purview. The reasonable limit of time, though not in the case of any goods that I know of fixed with even an approximation to accuracy, has received recognition from tire manufacturers, who give guarantees for a certain time for first quality goods, but it certainly does not seem expedient to extend this privilege generally to all departments of the trade. It is inevitable that a certain amount of bad work should be produced, and of course I do not say that in cases of undoubted defects the customer should have no redress, but it would certainly seem that he is apt to adopt a querulous tone on occasions without sufficient reason and the frequency with which such claims are settled is a direct incentive to roguery. It might be too drastic a proposal to suggest that claims should not be recognized after the goods have been accepted and paid for, but it would certainly be more in accord with the traditions of other trades. One thing certainly should be impressed upon the buyer—that it is to his craze for cheapness that dissatisfaction with the goods is in the majority of cases traceable.

THE fifth annual of this show, which was held February 14-23, does not call for much notice, as the only rubber firm exhibiting was the North British, who had a good display of clincher cycle and motor tires, though without anything particularly novel in their make. The third quality of their make is this season prominently on the market, being known as the "Red Clincher." This is made no doubt to meet a specific demand, and it is to be hoped that those who buy it will clearly understand what they are doing and not compare it to its disadvantage with the first quality of to-day, or of seven or eight years ago. I confess to a feeling of impatience when I hear buyers of cheap tires mournfully descanting on the decline in quality of the present day tire, though the prevalent suspicion that all first class tires so called are not of equal quality certainly seems to be founded on fact. Other tire exhibitors included the

Radax company, whose tire was specially referred to in these columns last year; the Shrewsbury and Challiner Tyre Co., Limited—a recent amalgamation of the Shrewsbury and Talbot Cab and Noiseless Tyre Co., and the Challiner & Willoughby Carriage Tyre Co., and the Swain Patents Syndicate, Limited. The last named company are the proprietors of the "Swain" and "Horwich" tires, which have now been before the public for a year, the works being at Horwich in Lancashire. In these tires, of which the "Swain" is the first class quality and the "Horwich" the second class, there are no wires, thickened edges, or other mechanical fastenings to hold the cover on the rim, the method of attachment being extremely simple. In the price list just issued I notice that a slight increase is made on last year's prices, which may or may not be attributed to the use of a better rubber. In the case of companies such as the three just mentioned, who get their tires made for them at one or other of the rubber works by contract, the patentee is of course somewhat at the mercy of circumstances of which he has no intimate knowledge. To enlarge somewhat upon this point, it may be mentioned that other companies, notably the Clipper, of Birmingham, have raised their prices for this season. Rumor has it that this company, though closely in touch with Birmingham manufacturers, draws its supply of inner tubes largely from the Continental Caoutchouc and Gutta-percha Co., of Hanover, a concern which has the reputation of turning out a larger quantity of these goods than any other firm. This sale of inner tubes in Great Britain, it may be mentioned, is not affected by the Dunlop monopoly, which only applies to the tire as a whole, or to the outer cover.

IN the reference to this trade which was recently made in these notes, the name of Ashworth & Co., of Hasparbey, near Manchester, should have been mentioned as an independent firm outside the English Card Clothing Manufacturers' Co. The English business in rubber faced cards with Russia has always been a large and valuable one, because of the condition of the cotton industry in that country. I refer especially to the running of the mills night and day without intermission, a fact which necessitates at least double the consumption of cards as compared with England. It has long been an object in Russia to reduce this expenditure by using cards of greater permanence, but the manufacturers have not yet solved the problem and, after all, it can hardly be said to be to their interest to do so.

THE prospectus of this company which recently appeared prominently in the newspapers has been rather severely criticised by those "in the know," it being asserted, though I personally cannot vouch for the accuracy of the statement, that all the five companies it was sought to combine have been losing money of late years. As, however, the company has not gone to allotment, there is little purpose referring to the matter in further detail.

IN the course of conversation with a gentleman who has been engaged in trade in Persia for the last twenty years, I elicited the fact that the wearing of goloshes is very general and considered a necessity in the winter months. The goods sold are all of European origin, none coming from the United States, except perhaps in a private way for the use of missionaries hailing from America. Except for a short length of railway

LONGEVITY OF RUBBER GOODS.

MANCHESTER CYCLE AND MOTOR SHOW.

CARD CLOTH MANUFACTURE.

REYROL MOTOR CAR SYNDICATE.

RUBBER FOOTWEAR IN PERSIA.

connected with the capital, the trade of the country is all done by caravan, though the vested interests which Russia has now obtained in the land, owing to the apathy of the British government, will no doubt result in a great extension of the railway system under Muscovite auspices.

ABOUT thirty tons of old Gutta-percha were among the stores sold at the Postoffice Telegraph Stores, Regent's Park, London, on February 27. The sale was by tender and prices have not transpired. From what I have seen of some of the lots the quality varied considerably, some of it being in very good condition while other lots were so decayed as to be almost useless for further application. It is probable that less of this material will be on offer in the future than has been the case in the past, as Gutta-percha insulation will probably be superseded by paper. With the general adoption of electric tramways in our large towns it is certain that, in view of the recent fatal disaster in Liverpool from the fall of overhead telephone wires, the use of bare aerial telephone wires will be largely superseded by insulated wires, either aerial or subterranean, wherever they cross the tramway routes.

THE adverse balance sheet which was presented at the adjourned annual meeting of this company at Liverpool on February 28 was not very pleasant reading for the shareholders, who subscribed for extra capital at a premium, as a result of the big dividend announced at the first annual meeting, but the course adopted of putting the pen through an amount of capital equivalent to the loss announced seems the best under the circumstances. A loss of £53,457 on the year's working is a very serious thing, though it has long been suspected by those doing business with the company that things were not going on as well as could be wished. The cutting of prices which has been accredited to the firm by its most prominent competitors has hardly proved a sound policy, though I attribute the blame largely to buyers, who are continually insisting on reductions in price. The ball making patents which are the property of the company are undoubtedly of value, and there seems no reason why the next annual report should not be of a much more favorable character.

THE distributions which have recently been made by the large cable companies as a result of last year's working must be considered as a satisfactory indication of the condition of this branch of the rubber manufacture. Henleys pay 20 per cent. and the Telegraph Construction and Maintenance Co. 17½, while the British Insulated Wire Co., which, however, does not use rubber, pay 15 per cent. The Union Cable Co., of London, a new firm outside the British Cable Makers' Association, has no works in England, it being in fact a German concern, and the success it has achieved with the Brighton corporation has formed the theme for acrid comment in several of our technical journals.

ON the last day before the new Companies act came into force, a company for the manufacture of cables was formed.

Under the name of the Anchor Cable Co., works are now being erected at Leigh, Lancashire, a town of which Mr. Shaw, who is prominently connected with the new venture, is the present mayor. The capital is only £50,000—not an excessive sum for such a manufacture—and it is understood that the business to be carried on, at first at all events, will be confined to wires for household, etc., purposes, large lead covered cables not being touched. Presumably the increased dividends referred to above have had the result of attracting the attention of capitalists to this manufacture, though it should not be overlooked by investors that

considerable scientific and technical knowledge is desirable, indeed, absolutely necessary on the part of those who undertake the control of this manufacture.

MR. LAIRD, who was formerly connected with this firm and then left it, has rejoined and has now the chief voice on the directorate. The works, which are situated in a suburb of Edinburgh, are in close commercial connection with the firm of Thornton & Co., trading in Princes street, Edinburgh, as retail rubber salesmen, waterproofs, and general sporting goods, for which there is such a large sale in Scotland, being the principal articles offered for sale.

THIS company, whose works are situated at Forth Bridge, Stirling, report themselves as having had a satisfactory year in 1900, and now that they have weathered the storm which new ventures in the field of mechanical rubber must expect in these competitive times, their future should be assured. Like the Clyde Rubber Co. and McLellan & Co., of Glasgow, the Forth Bridge works do a mechanical trade only, leaving alone the water proof business.

BY the death of that somewhat eccentric nobleman, the Earl of Galloway, without issue, his brother, the Hon. Randolph Stewart, has succeeded to the title. The new Earl is a director of Henleys Telegraph Co., a circumstance which may lead to the re-occupation of the family seat at Garlieston, on Wigtown Bay, by the holder of the title so prominent in the history of Galloway, a part of Scotland which has many pleasant associations for the writer. The widow of the deceased Earl is a sister of the British prime minister.—I hear that Mr. Michelin, of motor tire fame, has been in Brazil with the intention of interesting himself in the cultivation of rubber, in emulation, I suppose, of what the head of the Russian American India Rubber Co., at St. Petersburg, is doing in the Malay archipelago. The example thus set by Russia and France does not seem to have been followed by Germany or England, as far as rubber manufacturers personally are concerned, though these countries have taken the lead in accumulating scientific facts concerning the details of rubber culture.—The recent death of Mr. J. G. Ingram, of the London Rubber Works, Hackney Wick, removes a well known figure from the trade, though no doubt the business which he built up will continue to prosper under the supervision of his son, who has long been connected with it. Rubber surgical goods in the past formed the main item in the firm's turnover, and it is presumably owing to foreign competition in Great Britain in this class of goods that last year an extension of the buildings was effected, in order that the mechanical rubber goods trade might be entered upon.

THE GOODYEAR CURIOS WERE SAVED.

THE members of the New England Rubber Club who had the pleasure of seeing the mementoes of Charles Goodyear at the dinner given in honor of the great inventor in November last, will be interested to know that these articles were not destroyed by the recent fire which totally consumed the building in which they were stored in New York. Mr. Charles Goodyear, a grandson of the inventor, informs THE INDIA RUBBER WORLD that while the curios were somewhat damaged, the injury is not serious, the only harm having resulted from water. The safes when recovered from the cellar of the ruined building were submerged in water, and while waterproof, were not watertight. The most serious injury was done to the copy of Mr. Goodyear's book printed on sheets of rubber.

POSTOFFICE
CONDEMNED
STORES.

WAVERLEY
RUBBER CO.

THE RUBBER COMPANY
OF SCOTLAND.

PERSONAL
MENTION.

DIVIDENDS
OF CABLE
COMPANIES.

NEW
CABLE
WORKS.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS OF AMERICAN RUBBER GOODS.

THE returns of foreign trade from the treasury department for the first seven months of the fiscal year—July 1 to January 31, inclusive—afford a favorable comparison, in regard to manufactures of India-rubber, with the corresponding period of former years. The showing for rubber boots and shoes follows :

	1899.	1900.	1901.
Pairs.	342,848	487,531	1,212,297
Value	\$175,176	\$253,861	\$587,687
Average per pair.....	51.1 cents.	52.1 cents.	48.5 cents.

The total exports from the United States of goods classed as "Manufactures of India-rubber" during the first seven months of the fiscal year beginning July 1, 1900, were :

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-Dec.	\$265,621	\$523,748	\$807,193	\$1,596,562
January, 1901.	39,147	63,939	156,547	259,627
Total.....	\$304,762	\$587,687	\$963,740	\$1,856,189
1899-1900..	319,206	253,861	748,242	1,321,309
1898-99...	(a)	175,176	795,751	970,927

(a) Not separately reported prior to July 1, 1899.

Exports of reclaimed rubber during the same months have amounted in value as follows :

1898-99.	1899-1900.	1900-01.
\$194,589	\$258,747	\$278,271

AMERICAN IMPORTS OF RUBBER GOODS.

THE value of the imports of India-rubber and Gutta-percha goods during the first seven months of the three past calendar years has been as follows, the latest figures showing a decline :

	1898-99.	1899-1900.	1900-01.
India-rubber goods	\$198,308	\$329,657	\$262,018
Gutta-percha goods.....	63,898	123,673	111,445
Total Imports.....	\$262,204	\$453,330	\$373,463
Reexports.....	9,846	7,816	14,286
Net Imports	\$252,358	\$445,514	\$359,183

GERMAN EXPORTS OF RUBBER GOODS.

THE exports classified by the imperial statistical office as manufactures of India-rubber and Gutta-percha, are reported by weight, in kilograms, under the headings given in the table below, for which equivalent weights in pounds avoirdupois have been computed for THE INDIA RUBBER WORLD :

CLASSIFICATION.	1893.	1896.	1898.	1900.
Coarse soft rubber goods....	2,565,640	3,828,220	4,312,000	5,458,860
Fine soft rubber goods.....	1,647,800	1,762,800	1,894,420	258,720
Rubber threads and sheets..	273,240	388,300	542,520	606,100
Textiles coated with rubber.	757,680	855,120	870,540	1,201,860
Waterproof wearing apparel.	.....	134,860	197,560	267,300
Elastic fabrics and hosiery..	40,260	42,680	64,020	42,240
Rubber toys.....	616,660	.....	.....	.....
Hose, belting, etc.....	.....	.....	.....	526,680
Rubber boots and shoes ...	.....	.....	.....	631,840
Hard rubber	34,320	90,860	72,600	173,580
Hard rubber goods....	971,960	1,411,080	1,613,480	1,974,940
Unclassified rubber goods...	6,800	13,640	18,040	26,180
Total.....pounds.	7,666,060	8,847,000	9,585,180	11,168,300

[NOTE.—Blanks in the above table signify that the classes of goods opposite which they appear were classed, in the years to which they relate, under different headings; for instance, "Rubber boots and shoes," prior to last year, were included in "Fine soft rubber goods," and so on. Rubber toys are now classified

with general exports of toys, and no longer figure in rubber at all. Rubber bicycle tires are included with bicycles. Rubber insulated wires are not included above.—THE EDITOR.]

The value (in marks) of such exports during three years, has increased at the rate shown in the next table :

CLASSIFICATION.	1898.	1899.	1900.
Coarse soft rubber goods... .	22,736,000	26,316,000	31,016,000
Fine soft rubber goods.....	7,750,000	8,097,000	1,411,000
Rubber threads and sheets....	2,302,000	3,026,000	2,962,000
Textiles coated with rubber..	3,363,000	3,835,000	4,917,000
Waterproof wearing apparel..	1,392,000	1,411,000	1,883,000
Elastic fabrics and hosiery....	393,000	333,000	269,000
Hose, belting, etc.....	1,056,000	1,138,000	1,556,000
Rubber boots and shoes.....	.....	.....	1,723,000
Hard rubber.....	172,000	347,000	434,000
Hard rubber goods... .	5,867,000	6,311,000	7,630,000
Unclassified rubber goods...	105,000	106,000	147,000

Total, German marks....	45,136,000	50,920,000	53,948,000
Total, English money....	£2,256,000	£2,546,000	£2,697,400
Total, American money..	\$11,284,000	\$12,730,000	\$13,487,000

[In computing values £1 is estimated at 20 marks and \$1 at 4 marks.]

[NOTE.—The remarks following the first table apply in part to the second. Some changes in classification last year result in an apparent decrease in "Fine soft rubber goods," which is covered by increases elsewhere.—THE EDITOR.]

German exports under the heading "Telegraph Cables, etc.," during 1900 amounted in value to 24,710,000 marks, against 18,269,000 marks in 1899, 12,519,000 marks in 1898, and 9,743,000 marks in 1897. The largest exports (1616 metric tons) went to Spain, followed by items in excess of 1000 tons each to Belgium, Italy, Russia, Switzerland, China, Japan, and Mexico, and smaller items to seventeen other countries.

BOSTON RUBBER SHOE EXPORTS FOR JANUARY.

To—	Pairs.	Value.	Value, 1900.
England.....	75,500	\$32,053	\$5,480
Scotland.....	1,896	660	.....
Nova Scotia.....	288	732	2,416
Newfoundland.....	540	328	..
Miquelon.....	156	200	262
Total.....	78,380	\$33,973	\$8,158

UNJUST CLAIMS AND ALLOWANCES.

A WESTERN rubber man, speaking of rubber thresher belts, said: "I am more than glad that the cotton belt is taking the place of the rubber belt, for the former never had fair treatment. For example, before the threshing season, a man who owns a machine comes to a storekeeper and gets a rubber belt on credit, as he will have no money until the end of the season. Two months later he has the money, but hates to pay \$40 or \$50 for something that he is not going to use until another year. He therefore damages the belt all he can, perhaps running it against a sharp stake for half a day to fray the edges, or takes pliers and rips it down the center, or cuts into the side with his jackknife. Then he returns the belt to the supply man, says it was no good, and refuses to pay for it, and the supply man returns it to the manufacturer. Another case of unjust claims and allowances."

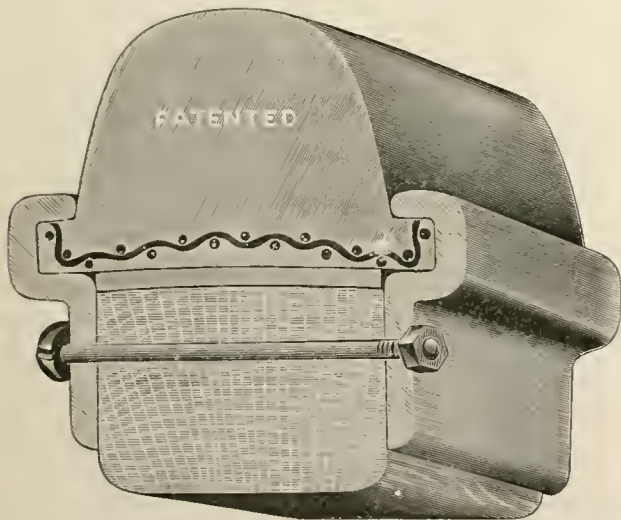
RUBBER BANDS AT \$3 A POUND.—A newspaper in Kansas City, Missouri, has been attempting to make a sensation over the allegation that a local druggist, who served recently as chairman of the city and county board of election commissioners, approved bills amounting to \$307.89 for rubber bands, supplied from his own drug store, for "bunching" ballots. The price charged was \$3 per pound.

THE RUBBER TIRE INTEREST.

PRICE PATENT FLANGE TIRE.

THE tire here illustrated is the result of experiments on vehicle tires, extending over a period of seven years. In Europe, where the rubber tire was first developed, the "clincher" idea has always remained fixed in the minds of the tire makers. Theoretically it doubtless is true that the further from the central plane of the tire the gripping device is secured, the more stable will be the tire. But the trouble has been to secure a tire at the side and have it satisfactorily supported. The old fashioned way of compressing a rectangular strip of rubber into a channel narrower at the top than at the bottom was wasteful both of rubber—in that the channel had to be very deep to retain the rubber firmly—and of efficiency, because what had to be squeezed in could also be squeezed out.

It is apparent that retaining bands and wires have theoretical objections which practice has proved to some extent to be well founded. There is a very different condition to be met



with by the small tires from that which confronts the large ones. This difference is due to the matter of load. A light tire ordinarily is not injured by weight, but is worn out through a succession of lateral strains. A heavy truck or an automobile, on the other hand, kills a tire mostly because of the excessive weight, and the tendency to use too small a tire. The strains to which the large tires are thus subjected are dissimilar, in that the resultant strain is almost invariably in the plane of the wheel, whereas the light tire, which frequently springs entirely off of the ground, has many strains of which the resultant may be at right angles to the plane of the wheel. The matter of retaining bands and wires, therefore, is a much more serious one with the large tire than with the small, because in the former case the rubber tread requires a full support to stand the excessive load. This support cannot be had satisfactorily with the tire of which the heart is cut out.

The "Price Tire" is stable, in the first place, because of its shape—a broad flat base, and a broad flat tread. Its base is reinforced by a steel wire cloth, chemically treated to make the rubber adhere firmly, forming a homogeneous mass. The tread is, therefore, fully supported, and all strains are transmitted by means of this stiffened base equally over the whole base, thus relieving any section of the tire from a concentrated

action such as wires and bands must produce in a tire which is capable of rocking in a channel. This tire is molded in a circle like a pneumatic tire, and fitted to each wheel. This means that the enormous and constant compression action which tends with the old type of automobile tires to raise the rubber out of the channel, even when the wheel is at rest (an action which obviously has greatly assisted in the destruction of many an otherwise good tire), is entirely obviated. The rubber is thus left in its natural state of rest, and in a condition to perform its normal functions.

The rims which clinch this tire to the wheel are cold rolled steel, fastened on both sides of the felloe, by being bolted together through the felloe. Their stiffening effect is enormous, and does a great deal to ease the strains on the wheels themselves. They are so simple and easy of application that any carpenter or blacksmith can apply them without previous experience. These tires are made from 2½ inches up to 6 inches, with rims to fit diameters from 30 to 50 inches. Several patents have already been issued and others are pending, covering this tire and several modifications. Tires are being made of this pattern for loads in excess of ten tons. [Calumet Tire Rubber Co., Chicago.]

THE KOKOMO VEHICLE TIRE.

THE Kokomo Rubber Co. (Kokomo, Indiana) are manufacturing a solid rubber vehicle tire, a section of which is illustrated on this page. It is a two wired tire, made of a compound original in the Kokomo factory and which has stood the test of service very satisfactorily. The company have, during the past year, equipped their factory with new machinery, specially fitted, for the manufacture of these solid tires on a large scale. They advise THE INDIA RUBBER WORLD that they are having also a large business in bicycle tires, and that, together with their output of solid tires, they are obliged to run the factory night and day, at full capacity.—A local newspaper prints the names of the 172 factory hands employed by this company on a recent date, making bicycle and vehicle tires—at the rate of 2000 of the former and 1600 of the latter per day. This was in addition to the office force.



A SECTIONAL PNEUMATIC TIRE.

THE Binghamton Sectional Pneumatic Tire Co. has been organized at Binghamton, New York, with \$50,000 capital, to manufacture a new tire patented [No. 644,622—March 6, 1901] by Charles Miller of Auburn, N. Y. It is claimed that a sectional pneumatic tire will run easier than a continuous one, because, the air section being in short lengths, not so much air will be pressed ahead in the tube; also, that a sectional tube can be much softer and will stand up better than a continuous tube. Each section of this tire is held upon the rim by clips, which hold the outer rubber bulbs or rubber sections to the rim. The inner tube sections are pushed on a series of nipples located at intervals on a continuous metal tube that passes around the wheel and is connected with the air valve. When air is pumped into the valves the bulbs fill simultaneously, and as the air fills the inner bulb it presses tightly upon the nipple; the more air pressure the tighter it grips the nipple. There is no cement used; on trotting sulky's this is expected to be of great advan-

tage, as more than one race has been lost by the loosening of cemented tires. The officers of the new company are: George E. Green, president; B. A. Bauman, vice president; F. J. Bauman, treasurer; R. D. Bundy, secretary; W. L. Bundy, general manager; Charles Miller, superintendent. Mr. Green is president of the International Time Recording Co. and the Bundy Manufacturing Co., of Binghamton, and W. L. Bundy is general superintendent of the factories of these companies.

THE TILLINGHAST ASSOCIATION SCORED.

THE correspondent who, in our last issue, made a statement regarding the attack of the minority stockholders in the Tillinghast Tire Association upon the legality of the transfer of the Tillinghast tire patent to the Single Tube Automobile and Bicycle Tire Co., seems not to have read rightly the decision in the supreme court of the state of New York to which he referred. Three separate demurrers were interposed to the complaint in this action (H. P. Booth *et al. versus* Theodore A. Dodge, trustee of the Tillinghast Tire Association, *et al.*)—one by Colonel Dodge as trustee of that association; another by The Single Tube Automobile and Bicycle Tire Co.; and a third by Cyrus P. Brown. The demurrers having been argued (January 28, 1901), the court ruled, through Justice Lawrence, that the plaintiff's allegations did not state facts sufficient to constitute a cause of action, the decision concluding: "Judgment will therefore be rendered for the defendants upon the demurrers, with costs, with leave to the plaintiffs to amend their complaint, if so advised, upon payment of costs." The previous statement in these pages was that the demurrers had been sustained. The matter promises to be of little importance, however, involving more or less a family matter, the Booth interests representing 522 shares of the 4000 constituting the stock of the Tillinghast Tire Association.

RUBBER TIRE NOTES.

THE India Rubber Tire Co., Nos. 1604-06 Grand avenue, Kansas City, Missouri, is a branch of The India Rubber Co. (Akron, Ohio), with local facilities for putting on the vehicle tires made by the latter company.

=S. D. Hanson, a carriage dealer at Edinboro, Pennsylvania, writes to THE INDIA RUBBER WORLD that he has put in a machine for putting on the "Victor" rubber vehicle tires. He thinks that rubber tires eventually will come into universal use, though their introduction into country districts will be gradual.

=Harry T. Dunn, manager of the Fisk Rubber Co. (Chicopee Falls, Mass.), is on a business trip to the Pacific coast, whither he went via New Orleans, with the intention of returning through Chicago.

=Mr. C. Warren Brown, who died at Salem, Massachusetts, February 13, in his sixtieth year, was a member of the carriage building firm of Lockwood & Brown, at Amesbury, who were among the first members of their trade to push vigorously the sale of rubber tired vehicles in this country.

=The case of The Single Tube Automobile and Bicycle Tire Co. *v.* Hartford Rubber Works Co., for violation of the terms of the Tillinghast license, mentioned in the last INDIA RUBBER WORLD [page 187] was called in the United States circuit court at Hartford on March 8, and postponed, on account of the absence of counsel on both sides.

THE rates for the cartage of crude rubber in Liverpool, as fixed by law, are 1s. 2d. (=28 cents) per ton for rubber in casks or bags and 1s. 6d. (=36 cents) for loose material, for 600 yards or less. One-fifth of this amount is added for each additional 600 yards, all charges being based upon gross weights.

AMERICAN BICYCLE CO.'S AFFAIRS.

THE securities of the American Bicycle Co. have been listed on the New York Stock Exchange, dating from March 13, and embracing—

Preferred stock—7 per cent. cumulative.....	\$ 9,294,900
Common stock.....	17,701,500
Gold debentures, 5 per cent., 20 year.....	9,243,000

The company state that at the outset they acquired 33 plants by purchase of real and personal estate and 14 by purchase of personalty only; total, 47 plants. They have since closed 3 bicycle factories and leased certain others for different purposes not relating to bicycles; they have sold 4 rubber tire factories to various interests; 6 factories have been sold to The Automobile and Cycle Parts Co. There remain in operation by the American Bicycle Co. 13 factories which they own in fee, and 3 the property of which is leased, with a total estimated capacity of 1,000,000 bicycles and 12,000 automobiles yearly. The company have not retained any of the tire or parts business. The company's gross sales of bicycles for the first ten months, ending July 31, 1900, are stated at \$13,780,280; net profits, \$855,579.71; interest paid on debentures, \$250,000; leaving net profits for benefit of stock, \$605,579.71.

The trading in these stocks thus far has been slight. Sales have been made at 6 for common, 28 for preferred, and 80 for the bonds.

BRITISH RUBBER MANUFACTURERS.

THE report of the India-Rubber Manufacturers' Association points to gratifying progress during the past in carrying out the purposes for which the organization exists. Thanks to the generally enhanced prices of raw materials, rubber manufacturers faced the situation with determination and prices of products were fixed accordingly. "A closer understanding has also come about as to the advantages of the Association in promoting 'the common interests of the trade, especially in reference to legislation and to difficulties in the general conduct of the rubber business,' as set out in the articles of association." The uniform standard price lists of hose and belting adopted a year ago have given great satisfaction. A better understanding has been brought about in the proofing trade. Six firms in this branch not previously members of the Association have joined during the year, and a waterproofing sub-committee has been appointed to deal with (1) the scale of charges for proofing cloth; (2) the matter of guarantees for proofed cloth; and (3) tests for proofing. Prices for proofing have become more uniform and the term of guarantees has been shortened. A committee has had under consideration the matter of government and railway contracts, the method of dealing with which has not been wholly satisfactory in the past. The officers for the current year are:

Chairman—J. E. BAXTER, The Leyland and Birmingham Rubber Co.
Vice Chairman—J. ROBINSON, Broadhurst & Co., Manchester.

General Committee—R. K. BIRLEY, Charles Macintosh & Co., Limited; JOHN COOPER, the Dermatine Co., Limited; F. W. INGRAM, J. G. Ingram & Son; P. H. LOCKHART, W. & A. Bates, Limited; F. PEGLER, The Northern Rubber Co.; G. C. MANDLEBERG, J. Mandleberg & Co., Limited; H. G. TIPPET, The Liverpool Rubber Co., Limited; J. TINTO, Irwell Rubber Co., Limited.

Treasurer—DAVID MOSELEY, David Moseley & Sons.

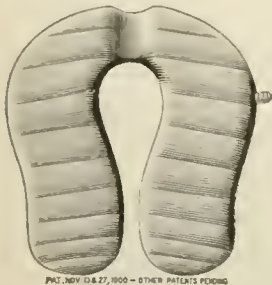
Secretary—F. B. KNOTT, accountant, 2, Cooper street, Manchester.

IN the new Manchester technical school a laboratory for the testing of insulating materials is to be installed.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE "HORSESHOE" AIR CUSHION.

THE "Horseshoe" air cushion contains just those features which have been sought in other air cushions, but which no other cushion has possessed. It is made to conform to the shape of the buttocks and thighs, and, having a flat surface when inflated, a firm and easy position is assured to the body, and all strain and discomfort is removed. The front of the cushion has a downward flare when inflated, being thinner at the front than at the back, which prevents that disagreeable upward pressure against the user's thighs. The cushion being connected only in the back, as the illustration indicates, permits the user to adjust it to his individual requirements by widening or decreasing the front opening. The opening at the front prevents constriction, and, in conjunction with the grooves in the back, also insures perfect ventilation. This ventilation also prevents any perspiration of the parts—a most necessary consideration. The cushion may be



Pat. Nov. 18, 27, 1900—Other Patents Pending
Also Pat. in Great Britain

be folded and used as a pillow or support for any special position, by folding one side over the other, and deflating one side in case the double cushion is too high. It is highly recommended by specialists as the only satisfactory rubber cushion for persons afflicted with rectal or spinal troubles, and is especially indicated in gynecological practice. Each cushion is fitted with a washable flannel covering, which can easily be removed and replaced, and by the use of this removable cover, the cushion can be kept clean and sanitary. That this distinctly meritorious departure in air cushions is welcomed by physicians and nurses is evident by the degree of popularity which it has already attained, although it has been on the market but a short time. The "Horseshoe" air cushion is made in two sizes, retailing at about \$4.50 and \$4 each, respectively. Although patented by Meinecke & Co. (New York), makers of advanced specialties for the sick room, the "Horseshoe" invalid cushion is now controlled by the Davol Rubber Co., who have the sole and exclusive rights to its manufacture under Meinecke & Co.'s patents. The invention is broadly covered by patents in the United States and Great Britain, and there are also additional patents pending. The patents will be insured by the Patent Title Guarantee Co., through whom any infringements will be prosecuted. [Davol Rubber Co., Providence, Rhode Island.]

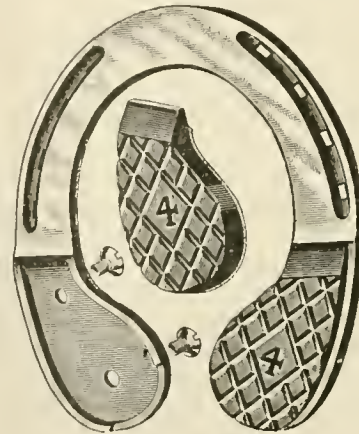
NONINFLAMMABLE RUBBER TUBING.

THE United States consul at Coburg, Germany, Mr. Hughes, reports that Müller & Korte, of Pankow, near Berlin, have brought out a new kind of rubber tubing, to be used in cases where damage to the rubber is to be feared either from the flame itself or by contact with hot dishes or stands. The rubber tube is sheathed with asbestos and the asbestos coated with incombustible paint, lest the fibres should peel off. The tubing remains pliable and can be cut as before. Burners with such rubber tubes may be placed on sand baths or hot stoves. The protection is, of course, not absolute; for when the heat becomes too strong the rubber inside will give way. The well known pipes with metallic spirals were originally made with

the same object, but they have found other useful applications, and they differ from these new tubes by being hard and inclined to break; once leaky, they cannot be mended.

GREENWOOD RUBBER HEELED HORSESHOE.

THE article illustrated here is not a rubber horseshoe pad, but a rubber heeled horseshoe, which is a distinction worth

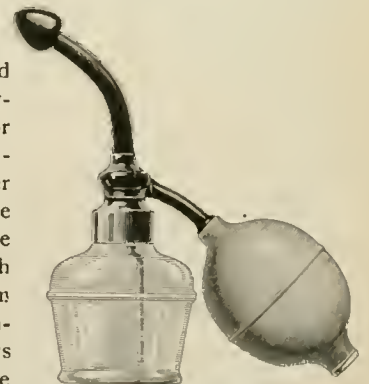


noting. The shoe itself is made of drop forged steel, in connection with which adjustable rubber heels are applied. The shoe can be heated and fitted the same as any ordinary steel shoe, and the horseshoer adjusts a toe calk of the proper size for the horse to be shod. When the shoe has become worn it can be reset; the toe calk can be replaced, as also can the rubber heels, which make practically a new shoe. The

shoe is made in sizes from 1 to 6 inclusive, and has been on the market for three years, the rubber heels being made by one of the leading factories. [The Greenwood Manufacturing Co., No. 23 North Main street, Chicago.]

THE DAVIDSON NEBULIZER.

THIS is the simplest and most economical form of nebulizer that has yet been put on the market, its economy coming not from the cheapening of the material, but from fewer parts and far less labor in manufacture. The Nebulizer, as the illustration shows, has a nasal cap which can easily be removed, leaving the throat tube, and this can also be taken off, leaving the open short tube for further nasal work. The manner in which the Nebulizer works is exceedingly simple and interesting. The pressure of the bulb sends air through the tube, forming a vacuum and drawing the liquid up into the tube. It then throws it against the sides of the bottle, breaking the atoms of liquid into the finest possible vapor. Both hard and soft rubber parts are made of the best of stock and the whole has the fine finish and the guarantee of excellence that goes with goods put upon the market by the Davidson Rubber Co., Boston.



NEW "AMERICAN" WINDSOR TOE FOR WOMEN.

THE making of this style was begun only last autumn, but it is understood that it has met a good demand. A great point in its favor is that it fits so well the leather shoes that women are now wearing. The last has a pronounced right and left swing and a fairly broad toe, and yet it avoids the extreme swing and very wide toe of the "Bull-dog" shoe. This is a mannish shape, but mannish in moderation. It just fits the leather shoe now most in vogue. [American Rubber Co., Cambridgeport, Mass., and New York.]

JOTTED DOWN AT RANDOM.

CLOTHING experts say that the day of the cheap mackintosh has gone forever. It certainly looks as if their statements were true, as at present only high grade goods are called for. If the cheap mackintosh is really a thing of the past, it will help the sale of high class double textures and also shower-proof goods. We may also look for a decided revival of the surface clothing trade.

* * *

RUBBER shoe weather in Canada has not been altogether satisfactory during the past winter. Except in the province of Quebec there has been little snow, and in that region it has not been of a kind that called for rubber footwear. There was plenty of it to be sure, but it was dry and light, and for several months there was not a sign of thaw, so that leather or wool goods were better and more comfortable than rubbers of any kind.

* * *

INTEMPERANCE in the use of Pontianak is sure to bring about its own rebuke. Many of those who have used Pontianak in small quantities successfully are so encouraged that they believe that it can do almost anything. For example, it has been used alone in strapping for coats, the result being that before a great while it oxidizes and lets go. Another trouble with it is that during its oxidation it throws out a very decided bloom which, in diagonals, for example, often will come right through the cloth. One thing should be kept in mind wherever Pontianak is used, and that is, that it should be kept away from the air. Some manufacturers are so particular about this that whenever a lot is received they keep it under water until washed, and then they mix it in compounds that are not exposed to oxidation, or else combine it with materials that keep the air from coming in contact with the gum. In that way it is very valuable.

* * *

A LETTER TO THE INDIA RUBBER WORLD from St. Paul, Minnesota, on the rubber trade situation in the northwestern states, says: "The mackintosh trade is very much reduced and excepting a few staple styles of garments for men and women, will cut very little figure in the rubber business in this section. It never was large here as our season is too short. We have frost from September to May. As to mechanical goods and sundries there is a demand for better grades, and this increases as population and manufacturers grow."

* * *

It is not long since rubber manufacturers felt that if they were to get good white effects they must use foreign made oxide of zinc. To-day, however, American zincs are very largely used and with as good, if not better, results than those that are made abroad.

* * *

THAT "Mineral Rubber" is going to have a most important place in insulation, particularly under water, seems to be an accepted fact. Either mixed with Gutta-percha or without, it absolutely refuses to absorb any water—a most valuable and necessary qualification.

* * *

THE plant of the now defunct London Rubber Co. (Ashtabula, Ohio) was sold recently to be used for the manufacture of ranges. This plant, it will be remembered, was run by Mr. Southwick, who first brought out the wine colored rubber coat. For some little time he was the only one who was able to get the right shade in red coats, and as a result he made considerable money. Eventually, however, other rubber manufacturers

were able to get as good a color, and before the garments went out of fashion prices had been cut so that there was not much money in them. The London company were never able to bring out another paying specialty, and eventually went out of business.

CANADA IMPORTS MORE RUBBER GOODS.

THE value of imports of manufactures of India-rubber and Gutta-percha into Canada during the fiscal year ended June 30, 1900, as officially stated, shows an increase both in the imports from the United States and in the total:

IMPORTS.	United States.	Great Britain.	Other Countries.	Total Value.	Duties Collected.
Boots and shoes.	\$ 46,869	\$ 58	\$	\$ 46,927	\$ 11,641.34
Belting.	33,519	688	....	34,207	8,503.00
Clothing and water-proof cloth.	64,138	88,426	227	152,791	45,614.73
Hose.	47,778	929	41	48,748	16,948.87
Packing and mats.	35,871	877	573	37,321	12,900.58
Sheeting.	1,969	....	....	1,969	513.00
All other.	171,723	27,133	18,242	217,098	52,885.34
Total.	\$401,867	\$118,111	\$19,083	\$539,061	\$149,006.86
Total, 1899.	\$359,037	\$119,523	\$15,130	\$463,690	\$134,717.69
Total, 1898.	255,525	(a)	147,706	403,231	112,688.41
Total, 1897.	209,776	(a)	110,127	313,903	....
Total, 1896.	217,536	(a)	139,745	357,281	....

(a) Included in "Other Countries."

There may also be noted the imports of the following articles, not classified by the Canadian customs as "rubber goods," but having a relation to the industry:

IMPORTS.	United States.	Other Countries.	Total Value.	Duties Collected.
Webbing, elastic and non elastic.	\$ 78,697	\$61,323	\$139,750	\$25,177.04
Stockinettes, for rubber boot and shoe makers.	47,964	15,774	63,738	8,873.41
Duck, for rubber belting and hose.	119,864	19	119,883	free.
Rubber thread, elastic.	1,968	....	1,968	free.

The exports of Canadian rubber manufactures were also somewhat larger than in any former year, as follows:

To—	Value.	To—	Value.
Australia.	\$27,565	St. Pierre.	\$ 58
Newfoundland.	16,407	United States.	108,811
Great Britain.	14,392		
Hongkong.	1,909	Total.	\$170,488
Germany.	483	Total, 1899.	133,332
France.	477	Total, 1898.	77,685
Switzerland.	211	Total, 1897.	26,121
Chile.	135	Total, 1896.	30,879

The exports of such goods to the United States for the preceding fiscal year amounted to \$85,084.

The Canadian statistics of imports for the fiscal year ended June 30, 1900, show these details relating to crude rubber and related materials:

CLASSIFICATION.	Pounds.	Value.
Gutta-percha.	2,252	\$ 1,713
India-rubber.	3,002,576	2,026,769
Rubber recovered; rubber substitute, and hard rubber in sheets.	1,523,834	219,779
Rubber powdered and rubber waste.	563,118	66,038
Total.	5,091,780	\$2,312,299

The total is much larger than for any previous year. In the following comparative table, figures refer to pounds:

YEARS.	India-rubber and Gutta-percha.	Recovered Rubber and Substitute.	Total.
In 1894-95.	1,402,844	611,745	2,014,589
In 1895-96.	2,155,576	643,169	2,798,745
In 1896-97.	2,014,896	1,061,402	3,076,298
In 1897-98.	2,457,321	1,316,494	3,773,815
In 1898-99.	2,211,593	1,036,446	4,148,039
In 1899-1900.	3,004,828	2,086,952	5,091,780

The imports of rubber from the United States amounted to 2,910,903 pounds and of recovered rubber, 2,077,758 pounds.

RUBBER IN THE PHILIPPINES.

AT the request of THE INDIA RUBBER WORLD some inquiries have been set on foot in Washington with reference to the occurrence in the Philippines of rubber species of commercial value. As the first result there has come to hand a list of the trees found there of the natural orders *Sapotaceæ* and *Urticaceæ*. To the first belong the true Gutta-percha and the Chicle tree, both of which are included in the list. To the second order belong the *Ficus* species, but *Ficus elastica* is not mentioned. It is by no means certain, however, that the list mentioned is complete. The paper is indorsed:

Office Forestry Bureau, Intendencia, Manila, P. I., November 20, 1900.

Respectfully returned to the secretary, United States military governor in the Philippines, Manila, P. I., with the statement that very little information is at hand concerning the extraction of Rubber and Gutta-percha in these islands.

None of these products have been received in Manila since the organization of the present bureau.

It is believed that there is a considerable area in the southern islands where Rubber and Gutta-percha is found. No definite reports as to the amount standing are available.

Enclosed find a list of the tree species desired in letter [from THE INDIA RUBBER WORLD.] This list is made from Father Blanco's "Flora de Filipinas," from Vidal, and F. Villar. GEORGE P. AHERN, Captain 9th U. S. Infantry, In Charge of Bureau.

There has since come to hand Captain Ahern's first annual report of the Philippines forestry bureau, in which it is stated:

"There are a great variety of valuable gum, Rubber, and Gutta-percha trees, but the trade has been ruined by the Chinese in their efforts at adulteration and other fraudulent practices. - - - Southern Paragua and Mindanao are celebrated for the great variety of gum, Rubber, and Gutta-percha trees grown there; but these forests have never been properly exploited, and afford a very attractive field for the investigator."

GUTTA-PERCHA.

IN the special consular reports on India-rubber published by the United States, the then consul at Manila, Alexander R. Webb, on December 6, 1890, reported that about fourteen months before Gutta-percha had found its way to Manila from the interior and promised to become an important article of export. For several years, he said, the natives of Zamboanga, Jolo, and other southern islands had been sending Gutta-percha, under the name of "goma," by sailing vessels, to Singapore, whence it was exported to England. A Chinaman sent a consignment to Manila, which sold for \$12 per picul (=133½ pounds), after which more arrived, and the price rose to \$34 per picul. Within a year preceding this report about 1000 piculs (=133,333 pounds) had arrived, and local English houses had sent agents to the southern islands to stimulate the gathering of Gutta-percha. The Chinamen were said to procure the gum from native Moros, who brought it to the coast from points the location of which the latter kept secret. No further information was ever gained from this source.—The department of agriculture at Washington received recently some specimens of Gutta-percha gathered on the island of Negros, which are now being tested by experts.

RUBBER PLANTING IN TOBAGO.

M. SHORT reports, in *The Tropical Agriculturist*, the shipment of 21 pounds of rubber, collected from cultivated *Castilloa elastica* trees nine years old, which was valued in London at 3s. 6d. (=86 cents) per pound. The Louis d'Or plantation, in Tobago, managed by T. Orde, is said to embrace 160 acres of *Castilloa elastica* and 40 acres of Ceará rubber.

BRITISH TRANS-PACIFIC CABLE.

THE trans-Pacific cable to be laid by Great Britain and her colonies, is now being constructed by the Telegraph Construction and Maintenance Co., Limited (London), whose tender was the lowest made to the Pacific cable committee, though all the leading manufacturers tendered. The contract price is £1,795,000 (= \$8,735,367), the surveying and installation to cost £203,853 (= \$992,766) extra. There are to be three sections, viz.:

	MILES.
I. Vancouver Island, British Columbia, to Fanning Island (to cost £1,067,602).....	3653
II. Fanning Island to Fiji (to cost £388,358).....	2181
III. Fiji to Norfolk Island	1019
Norfolk to Moreton Bay, Queensland.....	906
Norfolk to New Zealand.....	513
[The last section to cost £339,040.]	
Total.....	8272

The first two sections are to be completed by the end of 1902 and the third section by June 30, 1902. It is understood that 400 pounds of Gutta-percha per mile will be used, or a total of 3,308,800 pounds. The Telegraph Construction and Maintenance Co. date from April 7, 1864. Their full paid capital is £448,200 (= \$2,182,734), on which 15 to 17½ per cent. dividends are paid, and there are £150,000 in 5 per cent. debentures. The net profits last year were £100,195. The company have contracted with Wigham, Richardson & Co., Limited, Newcastle-on-Tyne, for a new cable steamer, which will be their fifth. The Pacific Cable Board, which will control and operate the cable, consist of three members of the imperial government and a representative each of Canada and New Zealand, and two jointly representing the three colonies of New South Wales Victoria, and Queensland.

RUBBER INDUSTRY IN PORTUGAL.

THE Compagnie du Caoutchouc, Monopole du Portugal, organized in Belgium, March 5, 1898, to exercise the exclusive privilege for the manufacture of rubber goods in the kingdom of Portugal for a term of ten years, with a capital of 1,000,000 francs, has been mentioned already in THE INDIA RUBBER WORLD. The factory is located in Lisbon. At the annual meeting in Brussels, on January 29, of the shareholders in L'Africaine, Banque d'Etudes et d'Enterprises Coloniales, through which the Portuguese company has been financed, extremely favorable reports were made in regard to the progress of the latter.

The end of 1900 found the company well supplied with orders; in fact, on January 1 there remained to be filled orders to a larger amount than at any previous date, for goods ordered exclusively for Portugal. The January business promised well, while February is regarded as the best month in the year, this being the period when the vine growers order hose extensively for the treatment (spraying) of their vineyards. The report says: "Our representative is visiting at this moment the vine regions of the north, and everything leads us to believe that the very low prices he is quoting will open the doors to him very wide." An extraordinary reserve of 200,000 francs (= \$40,000) has been created, and the treasury of the company holds 100,000 francs in shares of the Comptoir de Benguella and 600,000 francs in shares of the Compagnie du Luabo—enterprises engaged in rubber trading in Africa.

A SUBSCRIBER to THE INDIA RUBBER WORLD at San José, Costa Rica, writes: "I am planting rubber here for a New York company, and the outlook seems very promising."

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED FEBRUARY 5, 1901.

- N**O. 667,191. Process of synthetic production of India-rubber. William J. Corder, London, England, assignor to Louis D. Brandeis, trustee, Boston.
- 667,262. Elastic horseshoe. Thompson C. Stroud and Thomas H. Roche, Hartford, Connecticut.
- 667,338. Glove. Annie T. Rogers, New York.
- 667,348. Tire for vehicle wheels. Ferdinand W. Starr, Springfield, Ohio, assignor, by direct and mesne assignments, of three fourths to John B. Houston, William S. LeFevre, and John C. LeFevre, same place.
- 667,400. Rubber tire. Alfred S. Moore, Galt, California.
- 667,457. Tire armor. Edward C. Rebfield, Horicon, Wisconsin.
- 667,481. Respiratory mask or helmet. Charles H. Wood, Trenton, New Jersey.
- 667,485. Non-puncturable tire. John C. Bean, Boston.

ISSUED FEBRUARY 12, 1901.

- 667,666. Calendering machine. David Beswick, New York.
- 667,674. Machine for applying rubber soles to bottoms of leather boots or shoes. George F. Butterfield, Framingham, Massachusetts.
- 667,725. Armpit shield. Sallie G. McClain, Philadelphia.
- 667,738. Nipple for nursing bottles. James M. Rosegrant, New York assignor of one-half to John Gibney, Sing Sing, New York.
- 667,791. Device for automatically inflating pneumatic tires. Andres G. T. Ofverstrom, Sundsvall, Sweden.
- 667,950. Eraser holder and pencil attachment. Frank Oelke, Des Moines, Iowa.
- 668,067. Rubber tire setter. Reuben O. Stutsman, Des Moines, Iowa, assignor to The Bartholomew Co., same place.

ISSUED FEBRUARY 19, 1901.

- 668,177. Life preserver. Frederick A. Groenke, Melrose Park, Illinois.
- 668,282. Amalgamator. Caleb G. Collins, Woodmere, New York, assignor to Calvin A. Stevens, New York city.
- 668,292. Vehicle tire. Francis J. Johnston, Sacramento, California.
- 668,351. Soft-tread horseshoe. Robert J. Given, Hartford, Connecticut.
- 668,384. Rubber tire. Fred W. Morgan, Chicago.
- 668,398. Pneumatic tire for wheels. John Adair, Waterford, Ireland.
- 668,603. Bicycle tire. Martin V. Rush, Anderson, Indiana.

ISSUED FEBRUARY 26, 1901.

- 668,684. Insulating and fireproof sheeting. George Kelly, Mineral Point, Wisconsin.
- 668,733. Pneumatic tire. Phares S. Griffith, Grand Rapids, Michigan, assignor of one-half to Rose Bachman, same place.
- 668,994. Tire for vehicles. John B. Mahana and Adrian A. Pompe, Toledo, Washington.
- 669,047. Packing gasket. Albert B. Pratt, Boston, assignor to the Garlock Packing Co., Palmyra, New York.
- 669,049. Rubber tire for bicycles. William H. St. John and Omer W. Wait, Brooklyn, New York; said Wait assignor to said St. John.
- 669,060. Grinding mill. Thomas Cascaden, Jr., Waterloo, Iowa.

DESIGN PATENTS.

- 34,116. Water bag. Christian William Meinecke, Jersey City, New Jersey, February 19, 1900.
- 34,117. Water bag. *Same*. Assignor to Meinecke & Co., New York, February 19, 1900.

TRADE MARKS.

- 35,916. Fabric hose. Eureka Fire Hose Co., Jersey City, New Jersey, February 19, 1900.

ENGLISH PATENT RECORD.

APPLICATIONS.—1900.

- 16,937. Carl Otto Weber, Heathfield, near Manchester. Improvements in preparation for the vulcanization of India-rubber. September 24.
- 16,991. Arthur Stanley Morrison, 163, Queen Victoria street, London. Improvements in hose, engine packings, and other similar articles and in materials employed in their manufacture. September 24.
- 17,022. Frederick William Barratt, High street, Wimborne, Dorset. Improvement in inflatable tires. September 25.

- 17,055. William Frederick Williams, 53, Chancery lane, London. Improvements in elastic tires. September 25.
- 17,065. Uzziel Putnam Smith and Thomas Kane, 45, Southampton buildings, Chancery lane, London. Improvements in pneumatic tires for vehicles. September 25.
- 17,084. George Marquand Truss, 111, Hatton garden, London. Improvements in pneumatic tires. September 25.
- 17,203. Lewis Herbert Rittman, 26, Norfolk street, Strand, London. Improvements in pneumatic tires. [Henry Coeffin, France.] September 27.
- 17,221. Improvements in wheel tires. September 28.
- 17,239. William Cresswell Hopkinson and Silas Joseph Leach, 36, Bridge avenue, Hammersmith, London. Improvements in the fixing of wires in attachable and detachable pneumatic tires. September 28.
- 17,295. Albrecht Heller, 60, Queen Victoria street, London. Improvements in rubber tires. September 29.

APPLICATIONS.—1901.

895. Bogumil von Niedzielski and Jan von Gnatowski, 99, Cannon street, London. Improvements in the manufacture of rubber tires for vehicles. January 14.
891. August Hoedt, 36, Chancery lane, London. Improvements in or connected with pneumatic tires. January 14.
1007. Charles McCluskey Berry and Frederick Hofmann, 53, Chancery lane, London. Improvements in the manufacture of India-rubber goods. January 15.
1030. James Murrie, 264, St. Vincent street, Glasgow. Improvements in elastic fluid pressure rotatory engines. January 16.
1054. Hugh Taylor Stephens, 185, Fleet street, London. Improved cover for pneumatic and other tires. January 16.
1056. George Waters Pitt and Edward Martin, 9, Warwick court, Gray's Inn, London. Improvements in wheels and tires of vehicles. January 16.
1097. Frank Harrison Barker, 4, South street, Finsbury, London. Improvements in elastic wheel tires. January 16.
1111. William Brierley, 2, Old Market chambers, Rochdale. Machine for compressing rubber tires. January 17.
1117. Alexander Black, 62, St. Vincent street, Glasgow. Improvements in pneumatic tires. January 17.
1157. George Edward Heyl-Dia, 6, Lord street, Liverpool. Improvements in the manufacture of rubber hose pipes, tubing, and the like. January 17.
1160. John Ebenezer Bousfield, of G. F. Redfern & Co., 4, South street, Finsbury, London. Manufacture of sheets, waterproof fabrics, imitation linen goods, and the like, from casein. [Francesco Cantu, Guido Miglioretti, and Giacomo Maffei, Italy.] January 17.
1171. Albert Abram Wade, 169, Woodhouse street, Leeds. Improvements in pneumatic tires. January 18.
1229. Alexander Mironowitsch Levy, 27, Chancery lane, London. Improvements in tires for vehicles. January 18.
1268. Fanny Katherine Moth, 99, Cannon street, London. Improvements in dress shields. January 19.
1308. Albert Powell, 79, Reather street, Oldham road, Manchester. Improvements in couplings for pipes, cables, etc. January 21.
1337. Julius Frederick Gems and Alice Gems, Cobham, Surrey. Improved armlets, and expanding adjustable and collapsible bust forms and other improvements in expanding adjustable and collapsible dress stands, bust forms, or holders of wearing apparel. January 21.
1412. Stephen Treverton and John Mitchell, Lloyd street, Middlesbrough. Improvements in pneumatic tires. January 22.
1558. John Henry Ellis, 22, Southampton buildings, Chancery lane, London. Improvements in pneumatic tires. January 23.
1584. Christian Hamilton Gray, 111, Hatton garden, London. Improvements in rollers or covering rings of India-rubber and similar materials. January 23.
1586. Thomas Smith, 38, Chancery lane, London. Improved non-slipping device for horseshoes. January 23.
1808. John Shaw Greer and James Hazel Adamson, Fairfield, Kingston-on-Thames. Improvements in emery wheels and the like. January 26.
1924. Charles Denton Abel, Birkbeck Bank chambers, Southampton buildings, Chancery lane, London. Improvement in calendering rollers. [Firm of Johann Kleinewefers Sohne Maschinen-fabrik, Germany.] January 28.
1925. *Same*. Improvements in calendering machines. January 28.
1928. William Gordon Potter, 27, Chancery lane, London. Improvements in the manufacture of tubes. January 28.

1940. Vincent Joseph Bullen, 26, Osborne road, Tuebrook, Liverpool. The "Universal" household exerciser. January 29.
2067. John Harrington Haywood, 111, Hatton garden, London. Improvements in the manufacture of surgical elastic hosiery. Jan. 30.
2155. William Frederick Williams, 53, Chancery lane, London. Improvement in elastic tires or tire covers. January 31.
2164. George Frederick Noel Taylor, 56, Ludgate hill, London. Improvements in syringes. January 31.
2196. Michael Bartholomew Ryan, 12, Salomongasse, Cologne. Improvements in exercising apparatus. January 31.
2320. William Hanchett, 4, St. Ann's square, Manchester. Improvements in covering cables, wires, and conductors for electrical purposes with India-rubber or other insulating material and in machinery therefor. February 4.
2370. William John Robinson and Henry Higgins, 111, Hatton garden, London. Improvements in grinding mills. February 4.
2455. William Frederick Ellis and Edwin Curtis Davis, 321, High Holborn, London. Improvements in elastic tired wheels and in elastic tires. February 5.
2671. Charles Marshall Powell, 35, Temple row, Birmingham. Improvements in pneumatic tires and in metallic wheel rims. February 7.
2679. Abraham Kronstein, Southampton buildings, Chancery lane, London. Process of rendering materials proof against the action of moisture and of chemical agents. February 7.
2794. George Boyd Thornton, 23, Donegal place, Belfast. Improvement in the form of a rubber brush or squeegee. February 9.
2821. Alphonso Anthony Verel, 121, West George street, Glasgow. Improvements in elastic and pneumatic wheels. February 9.
2972. George Percival Gibson, 39, Stratford street, Leeds. Puncture locator for tires. February 12.
2990. Frank James Beecroft, 4, Clayton square, Liverpool. Improvements in pneumatic tires. February 12.
3068. Percy William Henri Gray, 10, Barclay road, Walham Green, London. Improved composition for golf balls. February 13.
3096. Reuben Long, Soham, Cambridgeshire. Spring tire. February 13.
3163. William Oliver Chisholm, 100, Wellington street, Glasgow. Improvements in waterproof collars, cuffs, and the like. February 14.
3333. Johannes Pieper, 18, Buckingham street, Strand, London. Improved method of rendering airtight pneumatic tires, cushions, and the like. February 15.
3334. William Henry Osborne, 174, Friar street, Reading. Improvements in leggings. February 15.
3404. John Frazer, 78, Fleet street, London. Improvements in pneumatic tires. February 16.
3429. William Garnett, Portchester, Hants. Improvement in ducts of stoneware, clay, concrete or other plastic material for carrying electric or other cables. February 18.
3464. Frederick Swarbrick, New Malden, Surrey. Pneumatic tube and valve leak detector. February 18.
3482. Charles Thomas Kingzett, 24, Southampton buildings, Chancery lane, London. Improvements in the manufacture of golf balls. February 18.
3593. †William Lloyd Wise, 46, Lincoln's Inn Fields, London. Improvements in syringes. [Walter H. Pumphrey, United States.] February 18.
3602. Horatio Sheaf and Herbert Allard Stonard, 5, Hatton garden, London. Improvements relating to the adjustment of tires for vehicles. February 19.
3734. Thomas Gare, 4, Corporation street, Manchester. Improvements in tires. February 21.
3793. Hartwell, William Webb, 11, Queen Victoria street, London. Improved compound or material for insulating electrical wires. February 21.
3794. Hartwell, William Webb, 11, Queen Victoria street, London. Improved die or mandrel and mounting therefor, for facilitating the uniform coating of electrical wires with insulating material. February 21.
3800. Edward Robertson Fletcher, Levenhall, Musselburgh, N. B. Tire for cycle or other wheels. February 22.
3802. Edward Henry Seddon, 57, Barton arcade, Manchester. Improvements in pneumatic tires. February 22.
3824. Richard Ames, 82, Mark lane, London. Improvements in apparatus for making pipes or tubes furnished with internal partitions from clay and other plastic materials. February 22.
3847. Karl Strauss, 45, Southampton buildings, Chancery lane, London. Improvements relating to gymnastic apparatus. February 22.
3855. Isidor Frankenburg, Limited, and Isaac Kingsfeld, 6, Bank street, Manchester. Improvements in waterproof garments. February 22.
3893. George Franklin Butterfield, 45, Southampton buildings, Chancery lane, London. Improvements in machines for applying rubber soles to the bottoms of boots and shoes. February 23.

PATENTS GRANTED.—APPLICATIONS OF 1899.

- 19,788. Pneumatic tire. Standing, H. F., Leeds, Yorkshire. October 3, 1900.
- 19,835. †Non-slipping tread surfaces for wheels, stairs, etc. Haigh, H. B., No. 265 McDonough street, Brooklyn, New York. October 3, 1900.
- 19,841. †Felt and rubber tire. Prescott, J. D., No. 27 Warren avenue, Boston; Bacon, C. N., Winchester, and Griffith, A. W., No. 25 Dillingham avenue, Beachmont, Boston, Massachusetts. October 3, 1900.
- 19,847. Pneumatic tire. Ancora, O. J. M., Milwaukee, Wisconsin. October 3, 1900.
- 19,862. Hot-water bags; syringes. Hall, E. W., 170, Armagh street, Christchurch, New Zealand. October 3, 1900.
- 20,031. Pneumatic tire. Ducasle, R., 35, Rue Guersant, Paris. October 3, 1900.
- 20,099. †Hose reels. Powers, F. B., 19 Church street, Chicopee Falls, Massachusetts. October 6, 1900.
- 20,115. †Grinding mill. Draver, E. R., and Draver, H. C., Winchester, Indiana. October 6, 1900.
- 20,186. Method of attaching tire to rim. Grant, T., Brighton, Sussex. October 9, 1900.
- 20,322. Self inflating tire. Casman, C., 50, Rue de la Gaite, Anderlecht, near Brussels. October 10, 1900.
- 20,342. †Puncture proof tire. Imray, O., Southampton buildings, London. [Haines, W. L., No. 801 Tremont buildings, Boston, Massachusetts.] October 10, 1900.
- 20,421. Puncture proof tire. Kobiolke, A., 10, Kampstrasse, Essen-on-the-Ruhr, Germany. October 11, 1900.
- 20,454. Valve for and method of inflating pneumatic tire. Gothert, B., Vahrenwalderstrasse, Hanover, Germany. October 12, 1900.
- 20,484. Pneumatic tire. Bothwell, D. H., Toledo, Ohio. October 12, 1900.
- 20,508. †Molding tires, piston rings, and other ring shaped rubber articles. Collet, J. A., Brooklyn, New York. October 12, 1900.
- 20,548. †Cushion tire. Beasley, W. F., Plymouth, North Carolina. October 13, 1900.
- 20,565. Method of attaching pneumatic tires to rims. Jelley, J., and Jelley, H., Coventry, Warwickshire. October 13, 1900.
- 20,619. Puncture patching material. Raper, E. B., 19, Low Ousegate, York. October 14, 1900.
- 20,653. Rubber horseshoes. Tuchler, E. 56, Standgasse, Vienna, and Herz, L. R. von, 18, Auhoffstrasse, Vienna. October 14, 1900.
- 20,667. Waterproofing and grease-proofing paper, etc. Staples, E. C., Alexander road, Leeds, Greenwood, F., Brearley, W., both of Francis street, Halifax, and Woodhead, D., Raven street, Halifax, Yorkshire. October 16, 1900.
- 20,766. †Grinding, crushing, etc. Mills, C. K., 23, Southampton buildings, London. [British Aero-pulverizer Co., Jersey City, New Jersey.] October 17, 1900.
- 20,775. †Baby comforters. Meinecke, C. W., Jersey City, New Jersey. October 17, 1900.
- 20,864. Pneumatic tire. Vinten, H. B., Elm side, Ramsgate, Kent. October 18, 1900.
- 20,881. †Pneumatic tire and method of attaching. Meyer, G., No. 870 Lexington avenue, New York. October 18, 1900.
- 20,934. India rubber substitutes. Cordner, W. J., 17, Shaftesbury avenue, London. October 19, 1900.
- 20,951-20,952. Pneumatic tires. Dessau, M. M., Tooting, Surrey, and Wapshare Tube Company, 3, Cross lane, London. October 19, 1900.
- 20,953. Wire fastenings for tires such as in 20,952. *Same*. October 19, 1900.
- 20,984. Horseshoe pads. Buer, A., Nordstrasse, Hanover, Germany. October 20, 1900.
- 20,992. Piston packing. Cooper, J. F., and Cooper, J. W., Sheffield. October 20, 1900.
- 21,385. Non-puncturable pneumatic tires. Deane, T., 40, Tremlett Grove, Upper Holloway, London. October 26, 1900.
- 21,420. †Pneumatic tire and method of attaching to rim. Munger, L. de F., New York. October 26, 1900.

NEWS OF THE AMERICAN RUBBER TRADE.

NEW RUBBER FACTORY IN OHIO.

THE Mahoning Rubber Manufacturing Co., of Youngstown, Ohio, was incorporated under Ohio laws February 28, with \$400,000 capital. At a meeting of the incorporators on March 7 directors were elected as follows: George Tod, John C. Wick, Henry K. Wick, W. Scott Bonnell, Charles H. Booth, A. E. Adams, and Harry W. Robinson. The officers are: Henry K. Wick, president; A. E. Adams, vice president; John Tod, secretary and treasurer; John S. McClurg, manager. The company was organized through the efforts of Mr. McClurg, the capital being subscribed readily by leading business men of Youngstown, of whom the directorate chosen are fairly representative. The amount of capital subscribed is, in fact, much larger than was asked for by Mr. McClurg. The decision to form a company was based upon the report of a committee of investigation of the rubber industry headed by Robert McCurdy, president of the First National Bank of Youngstown. The manufacture is to embrace hose, belting, packing, mats and matting; carriage and automobile tires; and a general line of mold work. The plant is to be wholly new, and is expected to be in operation by September 1 next. The motive power is to be electricity throughout, with a central power station. The calenders are to be equipped with direct current induction motors, while the mills, washers, and slow running machines will be fitted with alternating current motors. The main building, three stories, 200×60 feet, will be of mill construction, brick and stone. The central power building will be of brick, and contain the boilers, engine, generators, pumps, and feed water heaters. There is to be also an oil and cement house of brick, and a building to be used as a reclaiming house and for the manufacture of substitute.

CANTON RUBBER CO. (CANTON, OHIO.)

THIS company, which recently became a corporation under Ohio laws, with additional capital, amounting now to \$35,000, has elected H. L. Miller, president; E. Davis, vice president; Joseph A. Reed, secretary; and R. D. Bradley, treasurer. Business is reported on the increase and additional plant is to be installed. The company now occupy two commodious brick buildings, whereas two years ago their work was carried on in a small frame building which had been erected for a dwelling. —The company have received orders lately from, and made shipments to, Australia and Japan, and their goods are becoming favorably known very generally.

A NEW MECHANICAL GOODS CONCERN.

THE Combination Rubber and Belting Co. were incorporated March 7, under New Jersey laws, with \$350,000 capital, to manufacture rubber goods. The company have acquired the factory of the Combination Roll and Rubber Co., at Bloomfield, Essex county, New Jersey. The business of the new company will embrace the production of the well known brands of "Indestructene" belting, and hose, pump valves, rubber rolls of all kinds, together with molded goods, and a wide line of general mechanical goods. The factory at Bloomfield is well equipped for this class of work, having been in operation for many years, with a reputation for high grade goods. The factory will be in charge of Mr. Lyons, who for years was with the New York Belting and Packing Co., at Newtown (Conn.), and later with the New Jersey Car Spring and Rubber Co. The officers of the new company are Adolph Kern, president; Joseph B. Bloom-

ingdale, vice president; Henry Kern, secretary and treasurer; Julius Kahn, manager of sales. The Messrs. Kern are engaged largely in the metal refining trade, and particularly in the recovery of tin from waste tin plate. Mr. Bloomingdale is one of the proprietors of the great Bloomingdale department store in New York; and Mr. Kahn is widely known as a successful rubber goods salesman. The main offices of the company are at the factory. Permanent New York offices have not yet been established, but for the present their city address will be at No. 157 Cedar street.

VOORHEES RUBBER MANUFACTURING CO.

THE plant of this company, at Jersey City, has been substantially enlarged of late by the erection of an additional four story brick building 52×100 feet. The mechanical equipment also has been correspondingly increased, the additions consisting of several presses for mold work, a large belt press, new mixers, and so on. With a double shift of workmen, the factory has been run lately for 23 hours a day.

OKONITE CO., LIMITED (ENGLAND).

THIS company was registered February 6, with a capital of £120,000 (= \$600,000), to acquire the undertaking and assets of the Okonite Co., Limited, which has existed as an English corporation some ten years, subject also to the old company's liabilities. The capital consists of 32,000 preference shares of £2 10s. and 16,000 ordinary shares of the same amount. The directors are F. C. Jones, H. Durant Cheever, W. L. Candee, J. H. Cheever, and W. F. Gaston.

CONSOLIDATED RUBBER TIRE CO.

As announced in our last issue, a special meeting of stockholders of this company was called for February 28—on which day the paper was being printed—to consider the question of recapitalization. On the date mentioned it was given out that an adjournment had been made to March 22, and at that time a further adjournment was made until April 12.

CANADIAN RUBBER CO. OF MONTREAL.

AT the annual meeting on March 14 the yearly report was adopted and the old board of directors reelected: Andrew Allan (president); H. Montagu Allan (vice president); Andrew A. Allan, J. B. Learmont, W. H. Benyon, J. O. Graval, C. F. Smith, H. Markland Molson, and John J. McGill.

GOODYEAR TIRE AND RUBBER CO.

THREE stores have been opened by this company for the distribution of their tires and other products in the northwestern states, as follows: *Chicago*—No. 86 Lake street, F. A. Hastings, manager; to cover Illinois, Iowa, western Indiana, and southern Wisconsin. *Minneapolis*—No. 21 South Second street, Plant Brothers, managers; to cover Minnesota, the Dakotas, Montana, and northern Wisconsin. *Detroit*—No. 58 State street, George W. Strelinger, manager; to cover Michigan.

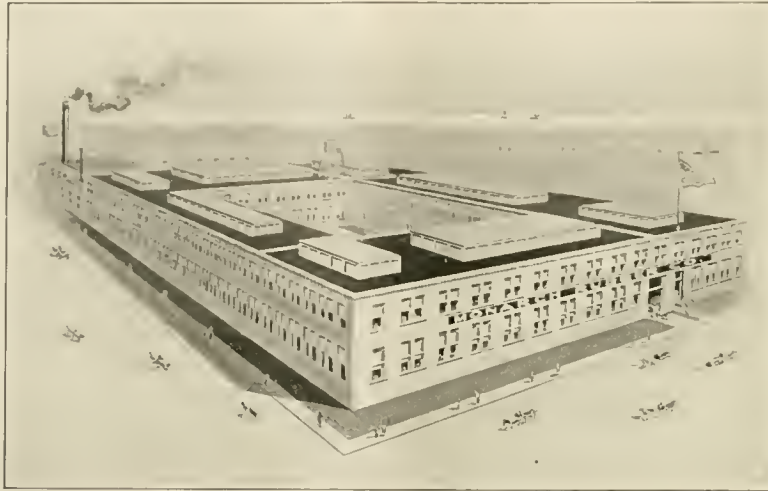
RUBBER GOODS MANUFACTURING CO.

THE directors at a meeting in New York, March 1, declared a quarterly dividend (No. 8) of 1¼ per cent. on the preferred shares, payable March 15, and a quarterly dividend (No. 4) of 1 per cent. on the common shares, payable April 15, to shareholders of record April 5. The amount to be disbursed is:

Preferred.	Common.	Total.
\$140,899.50	\$169,417.00	\$310,316.00

THE MONARCH RUBBER CO. (ST. LOUIS.)

THE factory of this company is one that eastern rubber men are not likely to visit very often, because of its remoteness. At the same time, it is well worth a journey to St. Louis to have a look at the most southern of American rubber shoe factories. Strictly speaking, the plant is not in the city, but is some six miles out, the distance being easily covered, however, by means of a well equipped trolley road. The factory buildings are of brick, substantially built, and situated close to the railroad, so that the shipping facilities are excellent. In addition to this, there is the feature of cheap coal, the price per ton being \$1.30 at the factory. The plant is equipped with a 900 horse power Hamilton-Corliss engine, and two Heine boilers of 250 horse power each. The rubber machinery, which consists of the usual equipment of washers, mixers, warmers, calenders, etc., is of Birmingham make, and in addition there are heel presses, accumulators, dieing-out machines, and a variety of lesser mechanical appliances common to all rubber shoe factories. This plant, however, is individual in many ways. For example, the largest friction clutch in use in any rubber factory (1600 horse power) is operated on the main shaft, with an arrangement so that the slight pressure on a wire running over any of the mixing mills serves to stop all the machinery instantly and incidentally shuts steam off from the engine, effectually closing it down in a moment's time. Another original feature is the improved shoe rack at the making up tables, where each girl has her day's work displayed in front of her, and, by the system followed, the same lasts return for her individual use. By an ingenious yet simple post-office system, everything that comes from the cutting room is assembled in boxes for each worker, so that the product known as "waste stock" is practically eliminated. There are many other lesser innovations, every one of which is practical. Indeed, Secretary Hemenover, who is both superintendent and assistant superintendent, has proved himself one of the ablest and most practical rubber shoe builders to-day in the field. This is not altogether surprising, as he had long experience both among users of rubber goods and in the factory. It will be remembered that for years he was with the Goodyear Rubber Co. at Middletown, Connecticut, and that each year he went out on the road for forty-five days and in that time placed a year's product. The rest of the time he was in the factory, designing styles and learning every detail of the business—an experience that is showing most excellent results in the Monarch goods.—While one naturally would expect the product of this company to be marketed in the southwest, President H. E. Wagoner was heard from recently, making sales in New England.



FACTORY OF THE MONARCH RUBBER CO.



W. E. HEMENOVER.

INSTEAD OF THE OLD TIME RUBBER AUCTIONS.

THE plan adopted last year by the United States Rubber Co. for selling all imperfect and out of date goods through a jobbing house, instead of by the former November auctions, has proved so satisfactory to the trade, that the contract with William F. Mayo & Co., Nos. 197-203 Congress street, Boston, for handling these goods has been renewed for another year. The various shoe jobbers' associations, particularly, are understood to have favored the new departure.

Messrs. Mayo & Co. handle this class of goods exclusively, including the makes of all the factories controlled by the United States company, and issue catalogues at frequent intervals.

TENNIS SHOE TRADE.

THE production of tennis, yachting, and gymnasium shoes is reported to have been larger this season than ever before. The shipment of these goods to the west and northwest

began about March 20. Their sale is less dependent upon weather conditions than that of rubber boots and shoes, though a backward cool spring has a tendency to retard orders. F. D. Balderston (Boston), special sales agent for the United States Rubber Co.'s tennis goods, has been busy in the western trade of late, with good results. A report from his office is to the effect that the lasts for the current season have all been improved, and the demand for the goods is greater than in any previous year. "If there is one shoe more than another with which we have made the greatest success, it is the 'Vacation' shoe." This has an extra heavy sole and is made in balmorals and oxfords. The "Vacation" is the latest addition to the United States Rubber Co.'s tennis catalogue, which otherwise has been the same for several seasons. The price list also is unchanged this spring.

A NEW RUBBER BRUSH COMPANY.

THE Flexible Rubber Goods Co. was organized at Winsted, Connecticut, on March 2, with \$10,000 capital, to manufacture the hollow tooth rubber brushes patented by John G. Doughty, of that city. For eight or nine months past these brushes have been manufactured for the inventor at Naugatuck, but it is now planned to install a small rubber plant, with a view later, perhaps, to begin the making of other rubber goods. The brushes referred to are made for bath, toilet, and massage purposes, besides which the "Military" horse brush is made. John G. Doughty is president of the new company, Joseph R. Sanford secretary and treasurer, and Henry Gay, director.

TRENTON RUBBER MANUFACTURING CO.

AN office and warehouse have been opened in Chicago at No. 21 South Canal street. Mr. F. B. McIlroy, who has handled this company's goods for a number of years with great success on the Pacific coast, will be the selling agent, taking

charge of both the Chicago and San Francisco business, and alternating between these two points. Mr. McIlroy is well acquainted with the rubber trade of the entire West, and will no doubt be successful in his additional territory.

NEW ENGLAND RUBBER CLUB.

THE annual meeting of the New England Rubber Club, which comes April 15, will be called by the executive committee on that date and adjourned to May 3, the date of the spring dinner, which, by the way, promises to be a notable affair, brilliant speakers having been engaged and a most interesting program provided.

AMERICAN CHICLE CO.

UNDER the amendments to the internal revenue law adopted in the closing days of the last congress, the tax on chewing gum of 4 cents on \$1 packages will cease on July 1 next. The immediate effect of this news was an advance in quotations of American Chicle shares, on the idea that the removal of the tax will result in a large saving to the company and a corresponding increase in the net earnings.==The company was incorporated in New Jersey June 2, 1889. It is capitalized for \$9,000,000—in 30,000 6-per cent. cumulative preference shares and 60,000 common shares, all issued. There is no bonded debt. The constituent companies are The Adams & Sons Co. (Brooklyn, N. Y.); Beeman Chemical Co. (Cleveland, Ohio); Kisme Gum Co. (Louisville, Ky.); J. P. Primley (Chicago); W. J. White (Cleveland, Ohio); Stephen T. Britton (Toronto, Ontario.)The company is reported to control 85 per cent. of the chewing gum production in the United States, and the annual output is given as \$3,200,000. On this basis revenue stamps to the amount of \$128,000 would be needed. Quarterly dividends on the preferred shares have been paid regularly since October, 1899, the sixth dividend of 1½ per cent. having been paid in January last—a total of 9 per cent. During the same time dividends on common stock were paid amounting to 13 per cent. The manufacturers agreed not to offer stock until April 1, 1901, but private sales have been made. The common sold first at 60 and the preferred at 85. Lately common has been quoted at 90 and preferred at 81.==Imports of Chicle gum into the United States during the seven months ending January 31 in each year have been :

	1899.	1900.	1901.
Pounds	1,251,291	1,425,665	1,441,500
Value	\$190,096	\$211,525	\$334,517
Value per pound,	15.2 cents.	14.9 cents.	23.2 cents.

These values per pound are, of course, the invoice values at the exporting points. In addition to charges, and importers' profits, must be considered the import duty of 10 cents per pound, so that recent quotations for Chicle in New York have been in the neighborhood of 40 cents.

After the above had been put in type a dividend was declared of 1½ per cent. on the preferred and also of 1½ per cent. on the common stock, payable April 1. The last preceding dividend on common had been 2½ per cent. and on account of the decline in the rate the quotations on common stock dropped to 78 bid, 83 asked.

THE RUBBER SCRAP SITUATION.

THE market has been without any special feature during the month, prices being practically unchanged, though perhaps a trifle lower. Dealers who can afford to buy for storage have been adding to their holdings, regarding 7 to 7¼ cents a low price, while some others have been selling in order to avoid becoming overstocked. The importation of scrap has declined very materially. The average at New York during a recent twelve months was 1,202,600 pounds; for January the figures were 889,302 pounds and for February only 341,361 pounds. A

prominent operator informs THE INDIA RUBBER WORLD that he is now selling in Germany 200 tons of foreign rubber scrap at about the price in New York for domestic scrap—a condition which naturally discourages importation here, and lessens any hope that imported scrap will soon serve to still further reduce prices of domestic stock.

MISHAWAKA WOOLEN MANUFACTURING CO.

AN additional building has been erected for the rubber department, which was occupied by a portion of the force employed in this department early in the past month==The newspapers recently reported a fire in the Mishawaka factory, but Mr. E. A. Saunders informs THE INDIA RUBBER WORLD that the only damage done was by water, with which the sprinkler system in use promptly flooded the room where some benzine and cement were accidentally ignited with a match.

UNITED STATES RUBBER CO.

THE following is a record of transactions in the shares of this company, on the New York Stock Exchange, during two months past :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending Feb. 2.	6,100	20½	19	1,070	62	60
Week ending Feb. 9.	4,875	21⅝	19¾	3,790	61	59⅝
Week ending Feb. 16.	3,010	21¼	20	2,510	61	60
Week ending Feb. 23.	4,615	20	18⅝	950	60⅝	60
Week ending Mch. 2	11,000	22½	18¾	4,107	62¾	59¾
Week ending Mch. 9	3,865	19½	18¾	2,850	59½	58
Week ending Mch. 16	2,045	19¼	18½	1,065	58½	57½
Week ending Mch. 23	4,080	20¼	18⅞	2,223	59½	58

NEW INCORPORATIONS.

NEW Era Automobile and Rubber Co., February 26, under Maine laws; capital, \$1,000,000. William Halkyard, president; W. G. Kendall, treasurer—both of Providence, Rhode Island.

=The Tougas Machine Co. (Brockton, Massachusetts), under West Virginia laws; capital, \$200,000. To manufacture a new machine for cutting rubber soles on a bevel, patented by the Tougas brothers. John B. Tougas, of Worcester, is president; George S. Tougas, of the Brockton Die Co., vice president; John C. Frederick, secretary; Joseph O. Tougas, treasurer. It is intended not to sell the machines, but to permit their use on a royalty basis.

=Nonpareil Manufacturing Co., March 1, under Maine laws, to deal in rubber and leather goods; capital, \$25,000. President: Franklin G. Saylor, Franklin, Mass. Treasurer: Walter Thurber, Providence, R. I.

=The A. C. Gibson Co. (Buffalo, New York), February 21, under New York laws, to carry on the rubber stamp business formerly conducted by the late Alexander C. Gibson; capital, \$7650. Incorporators: Ada S. Gibson, C. C. Gibson, Edward D. Gibson.

=The Consumers' Rubber Co. (Cleveland, Ohio), March 15, under Ohio laws, to conduct a general wholesale and retail business in rubber goods and mill supplies; capital, \$25,000. Incorporators: S. R. Driffield, B. E. Frazier, Charles L. Schwartz, E. W. Briggs, W. W. Elliott. The business has been conducted hitherto as a partnership.

=The Mahoning Rubber Manufacturing Co. (Youngstown, Ohio), February 28, under Ohio laws; capital, \$400,000. Incorporators: Henry K. Wick, W. Scott Bonnell, H. Lincoln Rowland, John Tod, John S. McClurg. Further particulars appear in another column.

=Combination Rubber and Belting Co., March 7, under New Jersey laws, to manufacture rubber goods; capital, \$350,000.

Incorporators: Samuel B. Beardsley, Joseph B. Bloomingdale, Henry Kern. Registered office in New Jersey: Bloomfield. New York office: No. 157 Cedar street.

=Goodyear Hard Rubber Heel Co., March 3, under New Jersey laws, to manufacture rubber boot and shoe heels; capital, \$100,000. Incorporators: Joseph Wichert, Emil Philipson, Anton C. Eggers, Adolph A. Eisell, Morris Hillquit.

=The Vulcanized Rubber Co., March 8, under New Jersey laws, to manufacture and deal in rubber goods; capital, \$500,000. Incorporators: Meyer Dittenhoefer, George Pellingier, Theodore E. Studley.

=Straus Rubber and Tire Co., March 8, under New York laws; capital, \$25,000. Directors: J. A. Straus, Alexander Straus, Annie Straus—all of New York city.

=Morgan Rubber Co., March 14, under New Jersey laws, to make and deal in rubber goods; capital, \$200,000. Incorporators: Hubert W. Morgan, Hugh S. Townsend, Warren Dixon. Registered office in New Jersey: No. 259 Washington street, Jersey City.

TRADE NEWS NOTES.

THE Cable Rubber Co. (Jamaica Plain, Mass.) have put in a new and complete steam plant, together with a new Slater engine. They have also added a calender and additional embossing machines. In spite of the new equipment, however, they are so crowded with orders that they are running nights.

=The College Point factory of the American Hard Rubber Co. has been working overtime of late in most departments. It is reported that more combs are now being made there than at any time in the past.

=The Pure Gum Specialty Co. (Barberton, Ohio) are putting on the market an exceedingly attractive red glove. It is seamless, of course, and beautifully finished, and catches the eye instantly.

="P. P. S." are letters that the Home Rubber Co. (Trenton, N. J.) are making almost household words, to use a mixed metaphor, and they refer to a new packing which is making remarkable records for itself and is known as "Perfect Steam Packing."

=Nubian packing (The Voorhees Rubber Manufacturing Co.) is making a splendid record on the Great Lakes, where it is used under a working pressure of 250 pounds strain, and under such pressure does not harden, but remains pliable and practically indestructible. So say C. E. Squires & Co., the engineering and contracting house of Cleveland, Ohio.

=William Lapworth & Sons, of Milford, Massachusetts, manufacturers of elastic webbing, are reported to have increased the capacity of their mill by the addition of six new looms.

=The Boston Woven Hose and Rubber Co.'s Chicago branch, in view of their removal to new and larger quarters, have issued a series of "Special Sales Sheets," relating to certain brands of mechanical goods, which they wish to dispose of promptly, for cash, rather than remove them to the new warehouses.

=Joseph W. Elberson, of Setauket, Long Island, informs THE INDIA RUBBER WORLD that no basis in fact exists for the report recently current that the plant at one time devoted to the manufacture of rubber footwear at Setauket, is to be run again this season in the production of the same line of goods.

=The war department during the past month awarded contracts for 150,000 rubber ponchos, large size, one half the number with grommets and the others with glove fasteners. Proposals were invited at Philadelphia, Boston, Chicago, and San Francisco. Further proposals were invited up to March 25 for 80,000 ponchos.

=A grain elevator now being planned for the New York Central railroad, at Weehawken, New Jersey, will have a capacity of 2,000,000 bushels, and will require an important amount of rubber belting. The contractors are George M. Moulton & Co., of Chicago.

=H. Herman, son of the founder of the Brockton Rubber Scrap Co. (Brockton, Mass.), will hereafter visit the rubber trade along the Atlantic coast, securing orders for cement balls and other specialties which the company handle.

=There has been some very seasonable weather—for the rubber shoe trade—during the past month, particularly in the northwest. As late as March 20 a snowstorm raged over Wisconsin, Minnesota, the Dakotas, and portions of Michigan and Nebraska, which doubtless had its effect in helping the sale of rubbers.

=The agency for the Hood Rubber Co.'s goods in Chicago has been taken by The Duck Brand Co., No. 252 Franklin street.

=F. W. Whitcher & Co., the Boston shoe manufacturers' goods firm whose "Velvet" rubber heels have become so well known, have removed from No. 4 High street, after twenty-one years' occupancy of that store, to larger quarters at No. 14 Albany street.

=A. Kern & Co. (No. 157 Cedar street, New York), the American representatives of the Frankfort Asbestos Works, Limited—formerly Louis Wertheim, Frankfort o/M., report that the demand for asbestos goods increases steadily.

=Early on the morning of March 15 fire broke out in the upper part of the building, Nos. 70-72 Reade street, New York, the lower floors and basement of which were occupied by William Morse & Co., rubber shoe jobbers. Their stock and storerooms were considerably damaged by water. Messrs. Morse & Co. have established themselves temporarily at No. 64 Reade street, but expect to be able to occupy their old location again by May 1.

=The Atlas Foundry and Machine Co. (Belleville, N. J.) is a concern that has lately equipped itself for the manufacture of all types of rubber machinery. The company has among its active men those who are fully acquainted with the needs of the rubber trade and who have already been machinery builders.

=That Akron is a most important rubber center has been newly emphasized by George A. Alden & Co. (Boston) and the New York Commercial Co., who have sent their Mr. W. L. Chipman to the city named as resident agent. Mr. Chipman is an active and popular man of twenty-six years, who made an excellent record in crude rubber among New England manufacturers.

=The Voorhees Rubber Manufacturing Co. (Jersey City, New Jersey) are advertising their Nubian packing very attractively, one indication of which may be seen by reference to their announcement in the advertising pages of THE INDIA RUBBER WORLD this month.

=The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, have acquired the rights for Canada to manufacture the "Berry" rubber heel, which for some time past has been on the market in the United States.

=Charles Bond, general mill furnisher, No. 520 Arch street, Philadelphia, has completed extensive alterations to his store, making it 200 feet in length, with basement of the same dimensions, besides a four story addition in the rear. Mr. Bond carries one of the largest stocks of shafting, hanging, and belting in Philadelphia.

=The Joseph Banigan Rubber Co. will have an exhibit of their rubber footwear at the Pan American Exhibition under the supervision of E. R. Rice, their representative at Buffalo.

=During March the Philadelphia store of John Wanamaker celebrated its "silver" or twenty-fifth anniversary. One feature was an exhibition of various manufacturing processes, covering lines of goods largely handled in that store. Andrew McGowin, head of the shoe department, had a rubber shoe making exhibit set up, with the coöperation of George Watkinson & Co., who sent a dozen operatives to the store, where "Thistle" rubber boots, shoes, and arctics were made for several days, Watkinson wagons being employed to convey the goods to the rubber factory, to be varnished and vulcanized. There was also an exhibit of rubber, crude and in the various stages of preparation for shoe making.

=The Byfield Rubber Co. (Providence, R. I.) have established agencies in London and in Melbourne, Australia.

=The annual meeting of the Gutta Percha and Rubber Manufacturing Co. will be held at the company's offices, in New York, on April 3, at 12 o'clock, noon.

=The Durham Rubber Co., Limited, have removed their offices from No. 60 Yonge street, Toronto, to their factory at Durham, in order that the work of receiving and filling orders may be brought nearer together.

PERSONAL MENTION.

IN regard to the accident sustained by Mr. J. H. Seiberling, president of The Indiana Rubber and Insulated Wire Co., mentioned in the last INDIA RUBBER WORLD, his company write: "The only injury Mr. Seiberling received was a broken leg, and as the bone is knitting as rapidly as can be expected in one of his age, we think he will be able to attend to business again in several weeks."

=Mr. Walter S. Ballou, president of the Joseph Banigan Rubber Co. (Providence, R. I.), accompanied by Mrs. Ballou, has been, for several weeks, traveling in the west, going as far as California.

=Mr. S. H. C. Miner, president of the Granby Rubber Co. (Granby, Quebec) recently spent a week in Boston.

=Mr. Robert D. Evans, the picture of health and content, plans to spend the coming summer in Europe.

=Mr. Ralph Frankenburg, son of Isidor Frankenburg (Salford, England), the largest manufacturer of mackintoshes in Europe, was a recent caller at the offices of THE INDIA RUBBER WORLD.

=Mr. H. C. Norton, of the Pacific Coast Rubber Co., is in the East on a brief visit. He is so delighted with San Francisco that he denies that he has been homesick for a moment.

=Mention was made in the last INDIA RUBBER WORLD of a visit to New York of Señor Enrique C. Creel, a prominent banker of Mexico, and particularly of a dinner given in his honor by Charles R. Flint. Later the news came from Mexico city that the return of Señor Creel to his home had been followed by the visit of an agent of Mr. Flint to Mexico to co-operate with leading capitalists there in combining the leading factories in the cotton manufacturing, cigar, and some other industries.

=The will of the late William Bernard Banigan, of Providence, Rhode Island, whose death was reported in the last INDIA RUBBER WORLD, dated July 31, 1899, gives to his wife and to his daughter each one half of his estate. The widow is named as sole executrix of the estate, with no inventory or account to be filed.

=Mr. Herman Barnes, son of Mr. George Barnes of the Whitman & Barnes Manufacturing Co. (Akron, Ohio), has built a beautiful model of the *Maine* from plans obtained from the navy department, the working scale being $\frac{1}{4}$ inch to the foot.

=A letter to THE INDIA RUBBER WORLD from Memphis, Tennessee, mentions The Business Men's Club of that city as

"one of the liveliest organizations in the South." It was through their suggestion recently that an invitation was extended to President McKinley to visit Memphis in May next, during the Confederate Veterans' reunion. A committee of Memphis business men went to Washington to deliver the invitation, in a private car provided by the Southern Railway Co. While Mr. McKinley could not accept, he promised to visit Memphis later. The committee included Mr. H. N. Towner, secretary of The Business Men's Club, and head of the rubber house of Towner & Co., and also Mr. H. J. Fosdick, president of the club.

=The New York *Times* prints a statement by Niels Grön, a native of Denmark, who visited the United States in 1897 to arrange for the sale of the Danish West Indies to this country. He says that he interested with himself H. H. Rogers, of the Standard Oil Co., and Charles R. Flint, as a committee to deal with the government, on the understanding that the committee were to receive 10 per cent. of the price paid, which price was expected to be \$5,000,000. He says that when the sale was almost consummated war broke out with Spain, when Denmark dropped the matter, fearing that the cession to the United States at that time of the harbor of St. Thomas, which was near Cuba, would be regarded by Spain as an unfriendly act.

=Mr. William Howard, a stockholder and director of the Lycoming Rubber Co. (Williamsburg, Pennsylvania) and one of the organizers of the company, died March 5 at Emporia, Florida, where he had gone in the hope of restoring his health, after an extended illness at home.

=Mr. Harry Herman, son of Mr. M. J. Herman, of the Brockton Rubber Scrap Co. (Brockton, Mass.) and Miss Fannie, daughter of Mr. and Mrs. L. Brams, of Lowell, Mass., were married on March 20, at the home of the bride's parents.

=Mr. and Mrs. Elisha S. Converse spent the winter in Florida and will stop for awhile at Lakewood, New Jersey, before returning to their home in Boston.

=William J. Bowes, manager of the Lawrence Felting Co., at Millville, Massachusetts, died at his home there on March 18. He was born in Ireland November 20, 1842, but came to America at an early age and was educated at Lawrence, Mass., where he became employed in the textile industry. He became superintendent of the Lawrence Felting Mill, and eventually part owner. In 1877 the factory was removed to Millville and 1893 was purchased by the United States Rubber Co., Mr. Bowes remaining in charge all the while. He was a close friend of the late Joseph Banigan, and was a director of the Woonsocket Rubber Co. for fourteen years. He was the most prominent resident of Millville. In 1868 Mr. Bowes married Miss Kavanaugh, at Auburn, New York, who survives him, with four sons and a daughter.

=Application has been made to the Connecticut legislature for a charter for an industrial and educational institute at Tolland, in that state, which Mr. Ratcliffe Hicks, president of the Canfield Rubber Co., purposes to endow liberally.

NEW RUBBER SHOE CATALOGUES.

THE illustrated catalogues of the various companies comprising the United States Rubber Co., dated April 1, 1901, and now ready for distribution, are even handsomer than usual outwardly, and embrace the customary details regarding the companies' products. The "Woonsocket," "American," and "Meyer and Jersey" catalogues have been received so far by THE INDIA RUBBER WORLD, and Mr. John P. Lyons, advertising manager of the United States Rubber Co., is to be complimented not only upon having given each a distinctive appearance, but in making each so unlike its predecessor. — The Gutta Percha and Rubber Manufacturing Co. of Toronto, Lim-

ited, advise THE INDIA RUBBER WORLD that, on account of commencing the new season in rubber footwear with the same list prices as used last year, they and some other companies in Canada, do not intend issuing illustrated catalogues at this time.

RUBBER BOOT AND SHOE PRICES.

THERE has been no development in the trade of late to point definitely to the course to be pursued by manufacturers in regard to prices after this date. It was regarded as probable that even the United States Rubber Co. had not agreed upon prices prior to the directors' meeting held in New York on March 28. Whatever decision was reached at that meeting is expected to be in the hands of the jobbers on the date of the publication of this paper.

RUBBER SHOE FACTORIES CLOSED.

THE factories of the Boston Rubber Shoe Co. have been quite active of late. About the middle of March a number of bootmakers who had been laid off for several weeks returned to work. Notices were posted toward the end of the month, however, of a shutdown, which, it is understood, is to last two weeks. Most of the other factories will be closed for the same period. A two weeks shutdown began at the factory of the National India Rubber Co. (Bristol, R. I.) on March 31. The "Alice" and Millville factories of the Woonsocket Rubber Co. closed at the same time, President Colt saying that he thought the shutdown would not last over a week or so.—The Lawrence Felting factory (Millville, Mass.) has been closed for some time. A son of the late Manager Bowes, whose death is reported in this paper, has been placed temporarily in charge.—The factory of the Model Rubber Co. (Woonsocket, R. I.) is reported by the local newspapers to be closed indefinitely.

CANADIAN RUBBER SHOE TRADE.

AT a meeting of the manufacturers in Montreal, it was determined to extend the season, which began on March 25, to April 10, 1902, "from the desirability," according to the *Canadian Shoe and Leather Journal* "of having the season here commence a little later than that of the United States." The discount to retailers is 25 per cent.; for specified orders given prior to August 1, and to be delivered prior to November 1, special discount, 2½ per cent. Fall dating shall be from November 1; cash discount, 6 per cent. prompt, 10 days, and 5 per cent. for 30 days. Interest allowed for prepayment, 7 per cent., and charged on past due accounts, 7 per cent. per annum.

GOSHEN RUBBER CO. (GOSHEN, INDIANA.)

AN inventory and appraisal were filed in court on March 7, whereupon an order was issued continuing The Elkhart County Loan and Savings Association as receiver, and requiring a sale to be made of the property after twenty days' notice. It was understood that a reorganized company would bid in the stock and machinery with a view to reestablishing the business at once.

FOSSIL FLOUR CO.

THE main office has been removed from No. 229 Pearl street to Bass River, Nova Scotia, in order to facilitate the shipment of "Fossil Flour" on orders, which of late have been coming in from the rubber trade on a liberal scale. The mining of this material cannot be carried on in winter, but it is proposed to begin work vigorously on April 1, and to make shipments as rapidly as possible. Customers are reminded that slightly more time will be required for getting answers to their letters than while the office was in New York.

THE Consumers' Rubber Co. (Cleveland, Ohio), who are advertisers in our pages of "metallic flexible tubing," advise THE INDIA RUBBER WORLD that a new price list has been decided on, and they invite requests for the same.

RUBBER AT PARA AND MANAOS.

"THE government of Amazonas has decreed a law," says the *Brazilian Review*, published at Rio, "that is now being carried into effect, and must, like all artificial restraints on trade, prove highly prejudicial to the real interests of the state itself. Designed to injure Pará by depriving that city of the great transit trade in rubber, it is likely to react on the rubber industry itself and give rise to a still further fall in prices. The advantage of concentrating the export trade at one center, at Pará, is evident, as competition was always certain to secure the best possible prices for producers. With two markets, the second at an enormous distance from the coast and with uncertain telegraphic communication with foreign markets, competition by buyers is certain to suffer. The decree we refer to obliges all rubber from the state of Amazonas to be landed at Manáos, packed in cases, and reshipped at a special wharf under government inspection."

According to the *South American Journal*: "All steamers with rubber from the interior upriver of the state of Amazonas are obliged to unload their rubber in Manáos. The effect of this is that steamers owned in Pará bringing cargoes of rubber, for example, from the Alto Purús for Pará are obliged to unload in Manáos, have the rubber weighed, the duty to the state paid there, the rubber sorted, and prepared and boxed in Manáos. Steamers thus lose ten, twelve, perhaps twenty or more days. The Amazonas Steam Navigation Co. refuses to take any cargo of rubber for Pará from the state of Amazonas. All this is crippling business just at a time when things are bad, any way you can look at it."

A report to THE INDIA RUBBER WORLD from Pará states: "In consequence of the Manáos usurpation of the trade in Amazon rubber, business here for the time being is restricted to Islands kinds and transit rubber from the adjoining republics, which latter the Manáos government has not dared to interfere with."

Manáos remained at a disadvantage with respect to communication with the outside world, after Pará became supplied with cable connections, and the laying of a cable up the Amazon, which was done a few years ago by the Amazon Telegraph Co., Limited, an English corporation, was expected to do great things for Manáos, coupled with the fact that the latter city is nearer than Pará to the center of the rubber producing district of to-day. The working of the cable has been so often interrupted, however, that it has been of little benefit to the trade, and its operation to date has resulted in loss to the company. During the fiscal year ended June 30, 1900, the company's revenues were £14,427 17s. 4d., with expenses of £39,996 15s. 5d. At the sixth annual meeting, on February 6, the directors were authorized to issue additional debentures, not to exceed £150,000, at 6 per cent. interest, to rank in all respects in priority to the existing issue of £200,000.

A Pará correspondent of the *South American Journal* (London), under date of March 9, wrote: "I have just been informed that the governor or government of Amazonas [at Manáos] is now in treaty with an American syndicate for a loan of \$2,000,000, and in exchange for which he is going to concede a difference of 15 per cent. to the syndicate for all the rubber they ship, on the duties paid to the state of Amazonas. This will practically give a monopoly of the rubber business for the state of Amazonas to the American syndicate."

The latter information has also been communicated officially to the government at Washington by the United States consul at Pará—Mr. K. K. Kenneday—who, by the way, recently has been on leave of absence to this country.

THE PICKETT VALVE IN TIRE REPAIRS.

THE American Pneumatic Valve Co., the concern which has been for some time past so energetically pushing the Pickett All-Rubber Valve, have been making some very interesting demonstrations in regard to the use of this valve for repair work. Of course in repair work, as in the construction of new tires, the two strong factors in recommending this valve to the trade are its cheapness and its efficiency. Used for repair work, this valve is inserted just as a repair plug would be, a small hole being first cut in the tire, through which the valve can be inserted.

The yearly saving that would result from the use of this valve to tire manufacturers and to repair men can hardly be over estimated. Every year, the large tire concerns have thousands of new tires returned on account of defective valves. These tires up to this time have been merely a dead loss. There has been no use to which they could be put, excepting to be ground up for mats, and the like. The use of this new all-rubber valve allows every one of such tires to be saved. All that is necessary is to cut off the old-fashioned metal valve, patch up the hole (the patch, of course, being concealed by the rim will not show) and then the tire is ready for the insertion of the rubber valve, which, as before stated, is inserted just as though it were a plug, and with the same facility. It is then, of course, a new tire, and can be sold as such. It will be readily seen what a very great saving will result in this way to the tire manufacturer.

So far as the repair trade goes, the same conditions apply. This new rubber valve can be inserted just as though it were a plug, and with the same facility. This will enable repair men, when tires are given them out of which the old-fashioned metal valve has been torn, to replace this metal valve with a new rubber valve at probably the same price paid to them for their work, but at a very greatly reduced cost to the repair man himself for the materials used in this work. It would hardly seem necessary any further to point out the great advantages of this new contrivance. When the tire trade and repair men can obtain at a greatly reduced cost, a valve which is a great improvement over other valves, and by combining this cheapness and greatly increased efficiency with their tires, get a result far surpassing the results obtained from any other, it would seem hardly necessary to say more to suggest the possibilities within reach of the trade.

TALC FROM A NEW SOURCE.

THERE has been incorporated lately in North Carolina a company for mining barytes and talc in that state, the supply being understood to be both extensive and of a superior grade. The new corporation is the Carolina Mineral Co., at the head of which is Mr. George E. Brightson, long identified in an important way with the drygoods trade in New York, and having offices now at No. 140 Maiden lane, this city. It is the purpose of the company to canvass the rubber trade for the sale of their products, which work will be in charge of Mr. M. F. Drudy. In preparing high grades of barytes and talc, naturally there is an accumulation of material which cannot be offered with the high grades and these, the company state, they are prepared to offer at very advantageous figures.

THE Santa Filomena Co., Limited, has been registered in London, with a capital of £12,000, to acquire India-rubber estates in Bolivia and elsewhere and carry on the business of collecting and dealing in crude rubber.

EMPIRE AUTOMATIC TIME RECORDER.

THE general recognition of the utility of automatic time recorders in factories and wherever a large number of workers are employed makes it unnecessary in these days to present any argument in favor of the use of such devices. The only question relates to the merits of any particular system or method of working of the recorder. In the production of the "Empire" recorder pains have been taken to make the machine simple and easy in operation, and not only accurate, but capable of remaining so for a long period. The number of



employés recording upon the "Empire" may be increased at any time by simply adding number checks as required, and in no way disturbing the existing system and at very little expense. The record made by the "Empire" is plainly printed and easily tabulated. It is impossible for any employé to tamper with it. Already it is in successful use in many factories, and rubber manufacturers are invited to write to the proprietors for details concerning its advantages. [The Empire Time Recorder Co., Cleveland, Ohio.]

SOME WANTS OF THE RUBBER TRADE.

[160] FROM a rubber manufacturer: "We are on the lookout for a machine to cut fruitjar rings. Can you supply the names of any manufacturers of such machines?"

[161] From an insulated wire factory: "Will you kindly advise me the approximate quantity of barytes that is used in the manufacture of rubber goods?"

[162] "Can you advise us who makes a rubber grip for use on racing oars?"

[163] "We want to learn the name of some manufacturer of waterproof sleeve protectors."

[164] "Will you kindly advise us where we can secure a woven wire spring, similar to those used in the manufacture of pessaries?"

ANSWERS.

[158] Theodore Hofeller & Co., Buffalo, New York, import German rubber shoe and other scrap.

THE RUBBER PLANTING COMPANIES.

THE Isthmus Rubber Co. of Ubero, was incorporated March 10, under Delaware laws, with \$3,500,000 capital, authorized to establish a rubber plantation near Ubero, state of Oaxaca, Mexico, which is on the isthmus of Tehuantepec. This is another outgrowth of the work done by William D. Owen in connection with planting in Mexico, there being already two "Ubero" companies at work, with headquarters respectively in Indianapolis and Boston. The headquarters of this new company are at No. 29 Broadway, New York. The officers are: Robert W. Parsons, president; Edgar B. Bronson, vice president; William D. Owen, general manager; W. I. Overstreet, secretary and treasurer. Mr. Parsons is identified with a large hardware manufacturing concern in New York, after having long been engaged in the coastwise shipping trade, and having lived in Mexico. The company own the land needed for the plantation, and nurseries have been formed already for starting it. The plan is to offer shares, payable in instalments, with the Continental Trust Co. (New York) as trustee. The new company will have the benefit of the experience, for several years past, gained on the other plantations with which Mr. Owen is identified, including the services of F. L. Torres, who has been connected with the rubber planting interests in Mexico practically from its inception.

THE OAXACA ASSOCIATION.

[Plantation: Buena Vista, canton of Acajucan, state of Vera Cruz, Mexico. Office: Royal Insurance building, Chicago, Illinois.]

A LETTER to THE INDIA RUBBER WORLD states: "While we now have upwards of 500,000 rubber trees, ranging from young trees to $4\frac{1}{2}$ years of age, the best showing on the isthmus [of Tehuantepec] is undoubtedly made by one of our neighbors, B. Griffin, who has fully 30,000 rubber trees with his coffee, of $3\frac{1}{2}$ and $4\frac{1}{2}$ years of age, closely followed by J. C. Harvey, another neighboring planter, who has occasionally written you articles on the subject." Rubber is planted 800 to the acre, with the idea of thinning out, by excessive tapping of some trees, when old enough to become overcrowded. The company's Bulletin No. 54 states that the last share of treasury stock—the capital is \$500,000—was placed in January. Harvesting of sugar, tobacco, coffee, ginger, and corn had begun, and first shipment of coffee was expected soon at Chicago. The company favor rubber shade for coffee. Cultivated trees are reported to be shorter but of larger diameter than wild trees of the same age, and to yield more rubber. H. E. Caster is president, W. H. Kent treasurer, George R. Kent secretary, and A. B. Coate general superintendent—the latter on the plantation.

CHIAPAS RUBBER PLANTATION AND INVESTMENT CO.

[Plantation "San Luis," near Palenque, department of Palenque, state of Chiapas, Mexico. Office: Crocker building, San Francisco.]

MR LUCIAN NICHOLL, a recent visitor to THE INDIA RUBBER WORLD offices, after having traveled in Chiapas, made the following statements regarding the work of this company: The company own a tract of 24,700 acres, watered by the river Michol, which empties into the Tujila, and that in turn into the Usumacinte, which enters the gulf near Frontera. The estate is divided into three "fincas"—named "San Luis," "San Francisco," and "Los Angeles"—the development of each of which has been begun. Up to January between 900 and 1000 acres had been cleared, except that trees of 8 or 10 inches diameter are allowed to stand. Planting was begun last year, resulting in about 60,000 trees now standing. In January there were 50,000 or more nursery trees, to be transplanted this

spring, when they would be a year old. Preparations are under way for creating more nursery stock, in order to provide for planting each season, as additional land is cleared. Trees are planted 16 feet apart, each way, the ground being cleaned for a space 5 feet square for each tree. It is estimated that one clearing of these spaces per year will be sufficient until the rubber trees have become large enough to dominate all other growths.

NEW TRADE PUBLICATIONS.

A HANDSOMER or more tasteful catalogue has not been issued at any time by a rubber manufacturing company than the 1901 "Catalogue of Original Styles in Rubber Boots and Shoes, Felt Boots, and German Socks, manufactured by GEORGE WATKINSON & Co., Philadelphia." It is prefaced appropriately by the motto "Costly thy Catalogue as thy purse can buy: but not expressed in fancy: rich, not gaudy, for the Catalogue oft proclaims the manufacture." The illustrations of styles are numerous, well executed, and on a larger scale than in most catalogues of rubber footwear, besides which are given views of the factory as first built, four years ago, and of the present factory, with the successive enlargements, and several interior views. The catalogue is further embellished with several other attractive pictures, appropriate to the subject of the book. [$7\frac{1}{4}'' \times 9\frac{1}{4}''$. 66 pages.]

NEW YORK BELTING AND PACKING CO., LIMITED, issue a new catalogue and price list of mechanical rubber goods of their production, the number and variety of which have increased steadily, since the company's origin in 1846, until the list is as large or larger than that of any factory in the country. The catalogue is illustrated from new plates, and includes much information of value to users of the various rubber goods described. The company make a specialty of elevator belting, and give a list of 97 large grain elevators which they have equipped with belting, besides they mention have sold belting for over 2000 elevators in the northwestern states. All the standard lines of mechanical goods stand out prominently, but the numberless little rubber "essentials" are also extensively represented. [$5\frac{1}{4}'' \times 7''$. 112 pages.]

MORGAN & WRIGHT (Chicago) after having attained so much prominence in the tire trade, have gradually introduced the manufacture of other lines in their well equipped factory, until their illustrated "Catalogue of Mechanical Rubber Goods" [$3\frac{1}{8}'' \times 4\frac{3}{8}''$. 175 pages] is about as complete as that of any of the older factories, with the exception of the items of belting and hose. Their 1901 "Trade Catalogue of Tires and Bicycle Sundries" [$3\frac{1}{4}'' \times 4\frac{3}{8}''$. 112 pages] is also very complete. The company send us also a dozen smaller pamphlets, each describing a special article or line, some of which are included in the larger catalogues mentioned above.

THE PEERLESS RUBBER MANUFACTURING CO. (New York) have issued their catalogue No. 32 of "Mechanical Rubber Goods," which is one of the most comprehensive publications of its kind in the trade. The Peerless company's products embrace many important special lines—of which their "Rainbow" packing is an example—besides the general list of mechanical goods. The catalogue is tastefully printed in two colors and liberally illustrated with good cuts. [$5\frac{3}{4}'' \times 8\frac{1}{4}''$. 136 pages.]

ALSO RECEIVED.

THE Philip Carey Manufacturing Co., Lockland, Ohio=[Handsome pocket memorandum book, with valuable facts for reference and advertising] Asbestos Magnesia Steam Pipe and Boiler Coverings.

REVIEW OF THE CRUDE RUBBER MARKET.

HERE has been apparently a better demand for Pará grades during the latter part of the month of March, though without effect in strengthening prices. Instead, some grades are lower. It would seem that manufacturers, as a rule, are not liberally supplied; also that it seems to be felt that probably bottom prices have been reached. Since the beginning of the crop year the world's consumption of Pará's has been greater than in the last preceding corresponding period, while the arrivals at the initial markets for the year have declined. From the beginning of the season receipts have been behind the figures for last year, though a part of the deficit was made good during March. The visible supplies of Pará for the world are smaller than last year, though stocks of Africans are larger.

Speaking of the crude rubber market one of the best informed of the large manufacturers said recently: "We know pretty nearly the amount of rubber unsold. We also know of one or two instances of large stocks bought at high prices that are held for a rise, but a possible crop shortage, or the continued holding of high priced purchases does not necessarily argue higher prices. Certain powers may get their heads together and boost the price up and hold it up by main strength for a little while, but unless there is a greatly increased use it won't stay up. The law of supply and demand, and the amount in the store houses of the manufacturers—something that no one can accurately determine—are the potent factors in price fixing."

The news telegraphed to the newspapers from Woonsocket, Rhode Island, on March 4, that "the formation of the \$30,000,000 International Crude Rubber Co. has been suspended," did not produce any sensation in the trade, since the suspension was generally supposed to have taken place several weeks before.—G. Van den Kerckhove, of Antwerp, in a recent circular, took the ground that the proposed American crude rubber "trust" could have but little effect in the way of manipulating prices. If prices should be forced, for any speculative reason, too low for the gathering of rubber to remain profitable, the supplies would diminish; if, on the other hand, they should be forced up beyond the ability of manufacturers to buy, consumption would receive a check. In either event the business of the importers would be interfered with. Hence, the Antwerp circular pointed out, no fear of the market being disturbed by any such combination as was proposed need be felt.

A report is current that the machinery of the Victor Rubber Co. (Jersey City, N. J.) is for sale, and that the business, that of making what is known as "Liverpool pressed strip," is to be given up. This is not remarkable, as the feeling among those who prepare rubber of this kind for some time has been that there was little or no money in it. Indeed, the factories at Liverpool have been closed recently, and the work of preparing strips hereafter will be done at factories on the coast of west Africa.

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York) advises us as follows:

"During March the money market has continued in about the same condition as February, with a fair demand for paper, the best rubber names being taken at 4½ per cent. and others not so well known 5 @ 5½ per cent., and occasionally as high as 6 per cent."

Quotations in New York on March 29 were:

PARÁ.		AFRICAN.	
Islands, fine, new....83	@84	Tongues.....	44 @45
Islands, fine, old....85	@86	Sierra Leone.....	57 @58
Upriver, fine, new....85	@86	Benguella.	51 @52
Upriver, fine, old....87	@88	Cameroon ball.....	44 @45
Islands, coarse, new...49	@50	Flake and lumps.....	34 @35
Islands, coarse, old... .	@	Accra flake.....	18 @19
Upriver, coarse, new...60	@61	Accra buttons.....	51 @52
Upriver, coarse, old...62	@63	Accra strips.....	@
Caucho(Peruvian)sbeet 46	@47	Lagos buttons.....	51 @52
Caucho (Peruvian)strip		Lagos strips.....	@
none imported now.		Liberian flake... . .	@
Caucho (Peruvian) ball 56	@57	Madagascar, pinky....	@
		Madagascar, black....	@
CENTRALS.		GUTTA-PERCHA.	
Esmeralda, sausage...54	@55	Fine grade.....	1.75
Guayaquil, strip.....46	@47	Medium.....	1.45
Nicaragua, scrap... .52	@53	Hard white.....	1.20
Mangabeira, sheet....45	@46	Lower sorts.	65
EAST INDIAN.		Balata.....	
Assam.....	@76		
Borneo.....	@46		

Late Pará cables quote:

Islands, fine.	Per Kilo 5\$800	Upriver, fine...	Per Kilo 6\$250
Islands, coarse	2\$600	Upriver, coarse.....	3\$450
Exchange 11 ³ / ₈ d.			

NEW YORK RUBBER PRICES FOR FEBRUARY (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine.....	85 ½ @ 88	1.04 @ 1.09	1.00 @ 1.04
Upriver, coarse...	63 @ 66	80 @ 86	86 @ 92
Islands, fine.....	83 @ 85	1.03 ½ @ 1.08	99 @ 1.01
Islands, coarse...	45 ½ @ 48	61 ½ @ 66	69 @ 73
Cameta, coarse:.....	52 ½ @ 54	64 @ 68	71 @ 74

Statistics of Para Rubber (Metric Tons.)

	NEW YORK.				
	Fine and Medium.	Coarse.	Total 1901.	Total 1900.	Total 1899.
Stocks, January 31.....	575	77 =	652	656	350
Arrivals, February.....	692	391 =	1083	911	1373
Aggregating.....	1267	468 =	1735	1567	1723
Deliveries, February.....	628	412 =	1040	913	1315
Stocks, February 28... . .	639	56 =	695	654	408

	PARÁ.			ENGLAND.		
	1901.	1900.	1899.	1901.	1900.	1899.
Stocks, January 31	715	1440	1009	1075	450	800
Arrivals, February....	2945	4000	4700	925	824	460
Aggregating	3660	5440	5709	2000	1274	1260
Deliveries, February..	3100	3445	3484	975	825	525
Stocks, Feb. 28.. . . .	560	1995	2225	1025	449	735
	1901.	1900.	1899.			
World's supply, Feb. 28 (excluding Caucho)...	4277	5656	5545			
Pará receipts, July 1 to February 28.....	15,863	18,735	18,915			
Afloat from Pará to United States, Feb. 28... .	1070	834	1055			
Afloat from Pará to Europe, February 28.....	927	1705	1120			

Liverpool.

WILLIAM WRIGHT & Co. report [March 1]: "Fine Para.—The market has been dull on spot but very active for forward delivery, and a large business done at current rates. Prices have fluctuated somewhat, but close about the same as last month. Receipts in Pará are again short, and there has been an active demand there all month, at prices considerably over those ruling here, both Europe and America buying largely. By some it is thought the small receipts mean only a delayed crop, by others a reduced crop; which view is right time will

show, but there seems to be every prospect, owing to financial crisis in Brazil, of the season's crop showing a large decline. In view of the strong buying for delivery and the demand which still exists at slightly under current rates, we cannot help thinking prices are somehow near the bottom. Sales on spot close at 3s. 7d. for Upriver and 3s. 7¼d. for Islands. For delivery, closing quotations are 3s. 7¼d. for April-May and 3s. 7½d. for May-June - - - *African*.—The market has been dull throughout the month and prices have continued to decline. A fair business done in Niger paste and Lump rubbers, and about 60 tons Sierra Leones sold at easier rates. Liverpool Pressed rubber still continues much neglected."

J. J. Fischer & Co., Limited, report Liverpool stocks:

	Nov. 30.	Dec. 31.	Jan. 31.	Feb. 28.
Pará: Fine...	675 tons	612 tons	810 tons	797 tons
Medium	89 "	54 "	93 "	107 "
Negroheads...	190 "	119 "	120 "	132 "
African	802 "	770 "	853 "	779 "
Peruvian	89 "	75 "	138 "	46 "
Mangabeira...	408 pkgs	430 pkgs	450 pkgs	430 pkgs
Pernambuco	76 "	150 "	94 "	43 "
Ceará	1106 "	1489 "	1672 "	1817 "
Maniçoba	88 "	152 "	146 "	3 "
Assaree	252 "	404 "	404 "	451 "
Mollendo	90 "	14 "	— "	25 "

London.

JACKSON & TILL, under date of March 1, report stocks:

	1901.	1900.	1899.
LONDON { Pará sorts.....	—	—	—
{ Borneo.....	179	166	110
{ Assam and Rangoon.....	20	22	18
{ Other sorts.....	646	337	341
Total.....	845	525	478
LIVERPOOL { Pará.....	1036	448	739
{ Other sorts.....	1108	944	567
Total, United Kingdom.....	2989	1917	1784
Total, February 1.....	3189	1848	1905
Total, January 1.....	2901	1855	2109

Mangabeira Rubber.

The shipments from São Paulo, Brazil, were very small during the latter part of 1900. The firm of Schlodtmann & Arnold alone exported during July, last year, more than 15,000 kilograms, whereas the total shipments by all firms, during the remaining five months of the year, were only as shown in the margin. Some improvement was shown in January, during which month

THE INDIA RUBBER WORLD'S correspondent wrote: "The best months for India-rubber from the states of São Paulo, Minas Geraes, and Goyaz are just beginning." All the rubber above referred to has been shipped direct to Hamburg.

A later report states that the shipments from São Paulo (all to Germany) during January amounted to 8476 kilos—of which 7684 by Otto Schlodtmann and 792 by A. Fiorita & Co. There are prospects of better shipments soon.

SITUATION OPEN.

WANTED—A large Mechanical Rubber Company about to install a Hard Rubber Department requires an expert; thoroughly competent on the compounding, machinery and manufacturing of Sheet, Tubing, Electrical Supplies, Battery Jars, etc. A good position is open to the right man. Address—stating age, and details of experience; also salary desired; references if possible—**REX**, care of THE INDIA RUBBER WORLD.

SITUATION WANTED.

RUBBER SHOE TRADE—Young man of 23, desires position in wholesale or jobbing house; has had experience and is of good habits; position in good house a consideration rather than salary. Address V. G., care of THE INDIA RUBBER WORLD.

Bordeaux.

ARRIVALS of Caoutchouc January 15-February 15:

	Kilograms
By ss. <i>Ville de Pernambuco</i> —Conakry 6500; Soudan niggers 500; Soudan twists 400; Cassamance 1800.....	9,200
By ss. <i>Général Dodds</i> —Soudan twists 6500; Soudan niggers 1200.....	7,700
By ss. <i>La Plata</i> —Soudan twists 9000; Cassamance 2800....	11,800
By ss. <i>Cordillières</i> —Cassamance 3200; Soudan twists 6500; niggers 800.....	10,500
Via Marseilles—Madagascar (Majunga) 2500; New Caledonia 1800.....	4,300
Via Havre—Colombian slab.....	1,200
Total	44,700

All arrivals have been disposed of at lower prices in consequence of the break in the market at Pará.

PRICES IN FRANCS PER KILOGRAM.

Cassamance A P and A. 6.25@7.	Sierra Leone twists:
Do A M and B. 3.70@5.10	I quality, white.....6 2t @6.45
Do C and D...2.75@3.50	II and III qualities...4 50@5 25
Sierra Leone niggers:	Grand Bassam, in cakes.5 50@5.70
I quality, red.....6.45@7.	Do mixed...4.50@4.60
Do white...6.45@6.80	Do blocks...4.30@4.60
II and III qualities...4.25@4.50	Madagascar-Majunga...5. @5.25
Sierra Leone twists:	Colombia slab.....5.10@5.25
I quality, colored...6.50@6.75	New Caledonia.....7.50@7.75

Stocks, February 15 (in kilograms): Cassamance 10,000; Soudan 3200; Java 3200; Madagascar 2000—total 18,400.

P. CHAUMEL.

Arrivals to March 15 embraced:

	Kilos.	Stocks Mar. 15.
Soudan.....	26,212	12,500
Conakry.....	2,500	.....
Cassamance (5 ponchons).....	.....	3,500
Madagascar.....	2,000	2,500
Java.....	1,000	2,800
Grand Bassam.....	1,000	.....
Tonkin.....	800	.....
Colombia.....	1,200	.....
Total... ..	*34,712	21,300

[*Excluding Cassamance.]

Prices have not materially changed. Soudan sorts are a trifle higher, while some others show a slight decline.

P. CHAUMEL.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the inscription sales of rubber on March 12 there were 288 tons of Congo sorts offered and 233 tons sold. The quantity sold was satisfactory, as well as the prices, which were, on an average, unchanged from the basis of the last sale in February. Of Lopori 2 tons were sold at 7.65 francs and 12 tons at 7.50 (brokers' estimation 7.50). Ten tons of Mongalla brought 6.65 francs and 32 tons 6.50 (estimation 6.50). Twenty-two tons Aruwimi sold at 5.95 (estimation 5.60); 5 tons Mongalla at 7 francs and 9 tons at 6.85 (estimation 6.75). Twenty-three tons red Congo thimbles sold at 3.25 francs (estimation 3.25).

The next sale will take place about April 15. Actual stocks at this date 732 tons, of which 168 are now being delivered by the *Leopoldville*.

C. SCHMID & CO.

Antwerp, March 13, 1901.

ARRIVALS AT ANTWERP.

FEB. 18.—By the steamer *Albertville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo).....	kilos 150,000
Bunge & Co. (Plantations Lacourt).....	5,000
Société Coloniale Anversoise (Belge du Haut Congo).....	58,000
Evrard Havenith (Société Andrea).....	3,000
M. S. Cols (Produits Végétaux du Kassaï).....	2,000
M. S. Cols (Société Lube fu).....	20,000
Ch. Dethier (Société Belgika).....	5,000 243,000

MARCH 4.—By the steamer *Leopoldville*, from the Congo: Bunge & Co. (Domaine privé Etat du Congo)..... kilos 168,000 Comptoir Commercial Congolais..... 15,000

Table with 3 columns: Company Name, Quantity, and Total. Includes Societe Coloniale Anversoise, L. & W. Van de Velde, etc.

ANTWERP RUBBER STATISTICS FOR FEBRUARY.

[By the courtesy of EMILE GRISAR.]

Main statistics table for Antwerp with 6 columns: DETAILS, 1901, 1900, 1899, 1898, 1897. Rows include Stocks, Arrivals, Sales, etc.

Table with 4 columns: Company Name, and three numerical columns. Includes Albert T. Morse & Co., Otto G. Mayer & Co., etc.

Total... 752,900 294,700 355,400 112,900= 1,515,900

March 11.—By the steamer Maranhense, from Manaos and Para :

Table listing companies and their quantities for the Maranhense steamer. Includes New York Commercial Co., Reimers & Co., etc.

Total... 523,300 111,700 175,100 241,400= 1,051,500

March 18.—By the steamer Floratio, from Manaos and Para :

Table listing companies and their quantities for the Floratio steamer. Includes New York Commercial Co., Crude Rubber Co., etc.

Total... 1,157,700 333,800 397,000 175,300= 2,063,800

March 23.—By the steamer Hilary, from Para :

Table listing companies and their quantities for the Hilary steamer. Includes New York Commercial Co., Boston Rubber Shoe Co., etc.

Total... 184,000 26,000 98,400 700= 309,100

[NOTE.—The steamer Dunstan was due at New York March 30 with 900 tons of rubber. The Cearense sailed from Para March 25, with about 650 tons of rubber for New York.]

More Rubber from Angola.

EXPORTS from Benguella, Loando, Mossamedes, and Ambriz continue to increase. The quantity, in pounds, has been as follows, in the years mentioned :

Table with 6 columns: Year (1888-1899) and Quantity. Shows increasing export values over time.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

March 1.—By the steamer Cametense, from Manaos and Para :

Table showing import details for March 1. Columns: IMPORTERS, Fine, Medium, Coarse, Caucho, Total.

PARA RUBBER VIA EUROPE.

Table of Para Rubber via Europe with 2 columns: POUNDS and Company Name. Includes Feb 25, Feb 28, March 4, March 11, March 18.

OTHER IMPORTS AT NEW YORK.

CENTRALS.

Table of Other Imports at New York with 2 columns: POUNDS and Company Name. Includes Feb 25, Feb 26, Feb 27, Feb 28.

CENTRALS—Continued.

Table of Centrals—Continued (part 1) with 2 columns: POUNDS and Company Name. Includes Hirzel, Feltman & Co., Flint, Eddy & Co., etc.

FEB. 28.—By the Teutonic=Liverpool:

Table entry for Teutonic Liverpool with 2 columns: POUNDS and Company Name.

MARCH 2.—By the Ortizaba=Mexico:

Table entry for Ortizaba Mexico with 2 columns: POUNDS and Company Name.

MARCH 2.—By the Patricia=Hamburg:

Table entry for Patricia Hamburg with 2 columns: POUNDS and Company Name.

MARCH 4.—By the Proteus=New Orleans:

Table entry for Proteus New Orleans with 2 columns: POUNDS and Company Name.

MARCH 5.—By the City of Washington=Colon:

Table entry for City of Washington Colon with 2 columns: POUNDS and Company Name.

MARCH 8.—By El Mar=New Orleans:

Table entry for El Mar New Orleans with 2 columns: POUNDS and Company Name.

MAR. 9.—By the Pennsylvania Railroad=Mexico:

Table entry for Pennsylvania Railroad Mexico with 2 columns: POUNDS and Company Name.

CENTRALS—Continued.

Table entry for H. Marquardt & Co with 2 columns: POUNDS and Company Name.

MARCH 12.—By the Comus=New Orleans:

Table entry for Comus New Orleans with 2 columns: POUNDS and Company Name.

MARCH 14.—By the Holbein=Pernambuco:

Table entry for Holbein Pernambuco with 2 columns: POUNDS and Company Name.

MARCH 12.—By the Allegany=Greytown:

Table entry for Allegany Greytown with 2 columns: POUNDS and Company Name.

MARCH 14.—By El Sud=New Orleans:

Table entry for El Sud New Orleans with 2 columns: POUNDS and Company Name.

MARCH 15.—By the Advance=Colon:

Table entry for Advance Colon with 2 columns: POUNDS and Company Name.

MARCH 16.—By the Yucatan=Mexico:

Table entry for Yucatan Mexico with 2 columns: POUNDS and Company Name.

MARCH 18.—By the Louisiana=New Orleans:

Table entry for Louisiana New Orleans with 2 columns: POUNDS and Company Name.

MARCH 18.—By El Cid=New Orleans:

Table entry for El Cid New Orleans with 2 columns: POUNDS and Company Name.

MARCH 20.—By the Uhaka=Mexico:

Table entry for Uhaka Mexico with 2 columns: POUNDS and Company Name.

CENTRALS—Continued.

MARCH 19.—By the *Alliance*=Colon:

Eggers & Heldelein	3,700
G. Amsinck & Co.	3,000
Hirzel, Feltman & Co.	1,600
Roldan & Van Sichel	1,700
Gillespie Bros. & Co.	1,600
Crude Rubber Co.	1,200
A. Santos & Co.	1,200
Lawrence Johnson & Co.	1,200
W. R. Grace & Co.	1,200
James Hardman, Jr.	1,200
E. Steiger & Co.	900
Dumarest & Co.	900
Ellinger Brothers	800
Andreas & Co.	800
F. Nieto & Co.	500

MARCH 20.—By the *Altai*=Savannila:

Roldan & Van Sichel	3,500
Kunhardt & Co.	2,000
A. N. Rotholz	1,500
Lawrence Johnson & Co.	1,200
G. Amsinck & Co.	1,000
Jimenez & Escobar	500
New York Commercial Co.	300

MAR. 22.—By the *Pennsylvania Railroad*=Mexico:

L. N. Chemedlin & Co.	3,500
G. Amsinck & Co.	2,000
J. B. Sageman	1,000
R. G. Barthold	500

AFRICANS.

FEB. 23.—By the *Dona Maria*=Lisbon:

A. T. Morse & Co.	22,500
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FEB. 25.—By the *Etruria*=Liverpool:

Livesey & Co.	24,000
Robinson & Tallman	28,000
Gutta-Percha and Rubber Mfg. Co.	16,000
A. T. Morse & Co.	11,500

FEB. 26.—By the *Fernfield*=Lisbon:

A. T. Morse & Co.	44,500
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FEB. 27.—By the *Southwark*=Antwerp:

A. T. Morse & Co.	13,000
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FEB. 28.—By the *Teutonic*=Liverpool:

Livesey & Co.	4,500
Reimers & Co.	1,000

MARCH 2.—By the *Patricia*=Hamburg:

A. T. Morse & Co.	7,000
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MARCH 4.—By the *Lucania*=Liverpool:

George A. Alden & Co.	45,000
Crude Rubber Co.	44,500
Reimers & Co.	34,500
Otto G. Mayer & Co.	10,500
Joseph Cantor	4,000

MARCH 7.—By the *Mesaba*=London:

Joseph Cantor	3,500
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MARCH 8.—By the *Tauric*=Liverpool:

A. D. Straus & Co.	8,500
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MARCH 11.—By the *Germanic*=Liverpool:

George A. Alden & Co.	11,500
Crude Rubber Co.	3,500
Reimers & Co.	2,500
Stewart Brown & Co.	2,500

MARCH 11.—By the *Umbria*=Liverpool:

George A. Alden & Co.	10,000
Crude Rubber Co.	10,000
Livesey & Co.	5,500

AFRICANS—Continued.

MARCH 12.—By the *Graf Waldersee*=Hamburg:

Livesey & Co.	35,000
Otto G. Mayer & Co.	22,000
A. T. Morse & Co.	15,000
J. A. Paul & Co.	1,500

MARCH 13.—By the *Westernland*=Antwerp:

George A. Alden & Co.	73,000
Crude Rubber Co.	73,000
Reimers & Co.	63,000
A. T. Morse & Co.	14,000

MARCH 14.—By the *Majestic*=Liverpool:

Crude Rubber Co.	17,500
George A. Alden & Co.	16,000

MARCH 14.—By the *Philadelphian*=Liverpool:

A. T. Morse & Co.	45,000
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MARCH 15.—By the *Kensington*=Antwerp:

Reimers & Co.	7,500
Joseph Cantor	6,500

MARCH 18.—By the *Campagna*=Liverpool:

George A. Alden & Co.	12,000
A. T. Morse & Co.	4,000
Reimers & Co.	2,000

MARCH 20.—By the *Batavia*=Hamburg:

A. T. Morse & Co.	28,000
Reimers & Co.	22,000

MARCH 20.—By the *Oceanic*=Liverpool:

Ed. Reeks & Co.	21,000
A. T. Morse & Co.	6,500
Joseph Cantor	2,000

MARCH 22.—By the *Pennsylvania*=Hamburg:

Reimers & Co.	16,000
Livesey & Co.	1,500

EAST INDIAN.

MARCH 9.—By the *Verona*=Singapore:

William Wright & Co.	25,000
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MARCH 12.—By the *Graf Waldersee*=Hamburg:

Robinson & Tallman	5,000
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MARCH 18.—By the *Claverhill*=Singapore:

Reimers & Co.	11,500
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MARCH 20.—By the *Batavia*=Hamburg:

Livesey & Co.	3,500
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MARCH 20.—By the *Devonshire*=Singapore:

Reimers & Co.	25,000
William Wright & Co.	11,500

PONTIANAK.

FEB. 25.—By the *Glenartney*=Singapore:

George A. Alden & Co.	135,000
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MARCH 18.—By the *Claverhill*=Singapore:

Reimers & Co.	800,000
George A. Alden & Co.	202,000
William Wright & Co.	102,000

MARCH 20.—By the *Devonshire*=Singapore:

Reimers & Co.	70,000
R. Brauss & Co.	80,000
William Wright & Co.	200,000
Otto G. Mayer & Co.	40,000

MARCH 20.—By the *Hudson*=Singapore:

George A. Alden & Co.	205,000
R. Brauss & Co.	80,000
W. R. Russell & Co.	50,000

GUTTA-PERCHA AND BALATA.

FEB. 25.—By the *New York*=Southampton:

F. L. Kreamer	3,500
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FEB. 4.—By the *La Bretagne*=Havre:

For Chicago	2,500
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FEB. 9.—By the *Verona*=Singapore:

R. Branns & Co.	4,000
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FEB. 12.—By the *Graf Waldersee*=Hamburg:

R. Soltau & Co.	7,600
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MARCH 19.—By the *Menominee*=London:

Lamb Mfg Co.	7,000
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MARCH 20.—By the *Batavia*=Hamburg:

R. Soltau & Co.	1,000
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MARCH 1.—By the *Maraval*=Trinidad:

Cadenas & Coe.	1,000
George A. Alden & Co.	500

MARCH 7.—By the *Mesaba*=London:

Earle Brothers	4,500
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CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—JANUARY.

Imports:	POUNDS.	VALUE.
India-rubber	4,340,991	\$2,200,094
Gutta-percha	12,740	6,266
Gutta-jelatong (Pontianak)	282,543	7,944
Total	4,636,274	\$2,214,304

Exports:

India-rubber	50,696	\$28,849
Reclaimed rubber	172,445	26,294
Rubber Scrap Imported	880,902	\$62,871

PORT OF NEW YORK—FEBRUARY.

Imports:	POUNDS.	VALUE.
India-rubber	3,938,300	\$2,042,546
Gutta-percha	19,946	16,446
Gutta-jelatong (Pontianak)	438,209	11,861
Total	4,396,455	\$2,069,353

Exports:

India-rubber	142,731	\$111,011
Reclaimed rubber	66,685	9,632
Rubber Scrap Imported	341,361	\$23,931

BOSTON ARRIVALS.

MARCH 9.—By the *Sylvania*=Liverpool:

Reimers & Co.—African	6,655
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MARCH 11.—By the *Bohemian*=Liverpool:

Livesey & Co.—African	11,275
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MARCH 13.—By the *Kensington*=Antwerp:

Reimers & Co.—African	22,580
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MARCH 22.—By the *Friesland*=Antwerp:

Reimers & Co.—African	10,410
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[The latter two lots were both included in arrivals at New York in last month's report.]

MARCH 23.—By the *Michigan*=Liverpool:

Reimers & Co.—African	15,836
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Total

Total	66,756
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[Value, \$36,864.]

FEBRUARY EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co.	52,944	13,986	95,691	634	163,255	131,536	27,030	40,726	32,400	231,692	394,947
Adelbert H. Alden	155,610	23,217	90,022	5,305	274,154	22,680	2,520	20,480	—	55,680	319,834
Frank da Costa & Co.	65,606	9,240	103,480	—	178,326	5,696	—	13,476	—	19,172	197,498
Rudolf Zietz	17,599	3,132	27,200	—	47,931	28,446	4,261	15,570	11,397	59,674	107,605
The Sears Pará Rubber Co.	40,830	4,890	46,950	—	92,670	—	—	—	—	—	92,670
Denis Crouan	—	—	4,480	—	4,480	44,566	6,190	30,214	—	80,970	85,450
Kanthack & Co.	—	—	—	—	—	14,488	3,230	3,583	—	21,306	21,306
Pires Teixeira & Co.	1,602	—	2,043	—	3,645	—	—	—	—	—	3,645
Sundry small shippers	—	—	—	—	—	6,800	7,690	6,674	—	21,164	21,164
Direct from Iquitos	—	—	—	—	—	44,388	8,717	54,813	1,963	109,881	109,881
Direct from Manaos	681,796	223,539	179,700	245 876	1,330,611	490,738	138,712	121,314	108,759	859,523	2,190,434
Total for February	1,015,987	278,004	549,566	251,815	2,095,372	789,338	198,350	306,855	154,519	1,449,062	3,544,434
Total for January	577,296	119,433	420,279	53,772	1,070,780	656,333	116,246	252,554	120,064	1,145,197	2,315,977



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NEW TENDENCIES IN RUBBER SHIPMENTS.

OUR British correspondent indulges in some comments on the growth of the importance of Antwerp as a crude rubber market, as compared with Liverpool, which, at one time, was almost the sole distributing point for African sorts. Within ten years the rubber arrivals at Antwerp (mostly Africans) have grown from nothing to a present rate of 5500 tons a year. Meanwhile, the arrivals of Africans at Liverpool direct from the countries of production have been declining. Doubtless the ultimate bearing of such facts will be found in a tendency toward a more direct conveyance of rubber from its sources to the points of consumption.

Just now, however, the movement of crude rubber is becoming adjusted along the line of control of the traffic by the various nationalities which control the sources of supply. In other words, the reason for the establishment of a rubber market at Antwerp is to be found in the interest which the Belgian government and Belgian capital have taken in developing the trade of the Congo Free State. Similarly, care is taken by the Portuguese government that the growing rubber output of its colonies in Africa—including the Benguela sorts—shall pass through the port of Lisbon. France, likewise, is actively developing the resources of her colonies, with the result that much rubber from them is finding its way by French owned steamers to Havre, Marseilles, and Bordeaux. Finally, Germany is trying to build up home rubber markets on the same basis.

The first effect of these new conditions is merely to lessen relatively the direct importation of African rubbers at Liverpool. Still, the great English port continues to handle large quantities of African rubbers, imported from France, Germany, Belgium, and Portugal. All of this, of course, has no bearing as yet upon a more direct conveyance of rubber from the forests to the factory than in the past. But there is bound to be another stage of development.

We have been written to by French merchants interested in the collection of rubber in French Africa, by companies owning their own ships which carry the rubber to French ports, relative to finding a sale for this rubber in the United States, without its first passing through Liverpool hands, on the ground that it can be laid down in New York for less money than when handled under past conditions. Already there are large arrivals here from Belgium and Portugal. Of course for the present the desire prevails, for example, that the whole French colonial trade, or the German colonial trade, in rubber shall inure to the benefit of ports in the mother countries, but in time this same trade may become so expanded as to make shipments possible from the colonies referred to, direct to the consuming countries.

Another tendency toward more direct methods in rubber shipments is taking shape in the Amazon country. No doubt one element in the high price of Pará rubber to consumers is the fluctuation in exchange due to the de-based Brazilian currency. A Brazilian trader who owed

abroad last year, say £1000, could have discharged the debt at one date with 16,696 milreis, while at another date 34,909 milreis would have been required, so wide was the rate of exchange during the year. Consequently the risk in trading is so great in certain stages of the movement of rubber that only by figuring on a wide margin of profit can one hope to escape disaster. There is one way in which the effect of these inconvenient fluctuations can be avoided. A company with ample capital, importing goods direct to be exchanged for rubber, and selling the rubber in foreign markets, might become in a measure independent of local financial conditions.

It is true that large companies were floated in London two or three years ago to work on these lines, but since their primary object was not to trade in rubber, but to make promoters' profits, they have not figured largely in rubber production. But more success seems to have been attained by a French company, capitalized at 9,000,000 francs, who last year exported to Europe from the Amazon over 1,300,000 pounds of rubber. Large rubber producing areas on the Amazon are coming under more direct private control than formerly, and it seems reasonable to expect that in the end rubber will be coming to hand from points nearer the prime sources than the markets of Pará and Manáos. Manufacturers, or the importers or brokers who supply them, will then be able to obtain rubber without its passing through so many hands as at present. If, meanwhile, Brazil should be able to reform her monetary system, the effect would be to hasten such conditions of direct trading in rubber.

BEGINNING AT THE WRONG END.

IT appears to us to be a reason for congratulation, rather than otherwise, that the big so-called electric vehicle companies have begun to dissolve. In common with the whole rubber trade, we should welcome such an increased demand for rubber tires as would follow the practical introduction of automobiles on a large scale. But a demand for tires is not made by the organization of companies with an enormous capitalization, and speculation in their stocks manipulated by means of all the tricks of the professional "trader." What the rubber tire makers want and what the public wants—if the public is at all interested—is the development of a type of horseless vehicle that will be efficient, durable, and not too costly, whether for purchase or for hire. And the purpose of such vehicles must be the conveyance of passengers, rather than a pretext for offering to investors a volume of stocks on which all the traffic now in sight could never yield adequate dividends. It has been a case of beginning at the wrong end, and it would be a good thing to have the whole business wiped off the slate and a fresh start made by supplying such automobiles as individuals or the public could be induced to buy or use, with the idea of earning dividends on the actual investment of capital.

No matter how great the demand for automobiles may become, their practical use must be of slow development. Their purchase as a "fad" by people of wealth, while they

are still a novelty, will be a poor basis for a great automobile industry. The substantial and lasting demand must be from people of average moderate means, or at least the automobile must be proved to be more convenient or more economical than the vehicles which it displaces. We do not believe that anybody seriously believes that any automobile yet made will become a permanent type, and yet this field of invention is far from new. The French government rewarded the designer of a steam carriage built for the war office in 1769. Fifty years ago Richard Dudgeon was running over the roads around New York city in a steam carriage of his own invention. Yet it is only within a half dozen years that the continued development of automobiles in France has attracted the attention of the outside world, and the French inventors have not yet produced a vehicle which commends itself generally. In New York better horseless vehicles than Dudgeon's are to be seen to-day, but the number per thousand of the population is hardly greater than when his single machine was in use.

The advent of electricity as a motive power has added new interest to the subject and determined a new class of inventors to evolve a practical automobile or die in the attempt. It is never wise to prophesy that a given thing cannot be done, and the advance made in other applications of electricity lends color to the hope that we shall in time see storage batteries of much greater efficiency, as compared with the weight and cost of the existing types.

But the demand for automobiles remains an uncertain quantity. If city people in America habitually used horse-drawn cabs they doubtless would prefer an electric vehicle at the same cost. But city people, villagers, and even many dwellers on farms habitually ride in electric cars, the service of which is being improved and extended steadily, and rarely at a greater cost than 5 cents per trip—a price with which no automobile is going to compete for very many years to come. A leading carriage trade journal last month, commenting on the decline in the sales of fine carriages in the United States and elsewhere, remarked that—

Since the rise of the trolley system, with its luxuriously equipped cars and its astonishing speed, many a man, who formerly kept a carriage of his own, finds it more convenient and less expensive to travel by street railways, and if he wants to enjoy a carriage ride with his family, he can send to the nearest livery stable with far less trouble than he could maintain a private establishment.

Some such consideration would prevent people from falling over each other to buy even automobiles in which no reasonable mind could find anything to criticise.

We do not mean to say that there is to be no demand for automobiles. No doubt there will be a wide field for their use in the carriage of goods in cities and their suburbs—when they have been further improved and cheapened. And our population is so large that even if a very small percentage bought pleasure vehicles a respectable output would be required. But a lot of companies with millions of capital each are not needed to supply the demand. It may be added that the final perfection of the automobile depends somewhat on the rubber man, who is confronted

with the hardest problem since Goodyear's time, in the matter of supplying a tire that will do its work and not cost more for maintenance than a vehicle can earn in passenger fares. The final type of automobiles must, however, be adapted to the limitations of rubber, instead of the rubber being forced to meet any and all requirements of the vehicle makers.

THE RUBBER INDUSTRY IN CANADA is growing, as it is elsewhere. Each year shows a material increase in the amount of raw materials entered for home consumption, besides which the imports of rubber goods are larger than in the period when no rubber factories existed in that country. All of which means that the consumption of such goods is extending in the Dominion, and at a more rapid rate than the growth of population. So far as this growth of consumption is concerned, it is going on all over the world, including many countries which do not, like Canada, attempt to supply the home demand by home production, and this affords possibilities for wider markets for American rubber goods which ought to keep our factories busy, and prevent any cutting of prices in the American market below a level of profitable production. But not all the enterprise and activity of the Canadian manufactories prevents the sale of rubber goods from the United States in that market. It is interesting to notice, in passing, that the system of preferential duties now in force in the Dominion, meant to stimulate closer trade relations with the mother country, has not increased the proportion of British rubber goods exports to Canada. During the last fiscal year the United States supplied about 75 per cent. of the total imports of rubber goods into Canada, and if rubber clothing and waterproofed cloth be deducted from the total, the share of the United States was more than 87 per cent.

THE POSITION OF THE BICYCLE TRADE, as we always felt would be the case, is becoming much more favorable for the tire producers, though this is now a matter of less interest to the rubber industry in general, owing to most of the former manufacturers of tires having given up the business. There are now fewer makers of bicycles, there is no longer over-production of wheels, the concerns in the field are on a sounder financial basis, and in future good wheels will find a steady sale at a fair price. The fact that conditions exactly the opposite of these existed for so many years helped to make the tire business exceedingly unsatisfactory to many of the rubber companies who at one time or another engaged in it. It must be admitted that the rubber people made some mistakes on their own account, which experience has taught the survivors in the trade to avoid. But the bicycle tire business is by no means at an end. The bicycle trade having taken a new lease of life on sounder lines, it is reasonable to expect henceforth that a gradual and healthy increase in production will be seen; that cyclists will demand good wheels and good tires, for which they will be willing to pay the right prices; and that money can be made by everybody in the trade who adopts the same business principles that are necessary to success in other lines. There is no reason to suppose that the demand for rubber tires will ever grow less.

WHILE ANOTHER CONGRESS has adjourned at Washington without furthering the construction of an American trans-Pacific cable, an award has been made for the construction of a cable between British Columbia and Australia, to be controlled by Great Britain and her colonies, and the work of

manufacture has been begun. This fact need not discourage the advocates of an American cable across the Pacific, although the idea prevailed at the Ottawa conference of 1894 that the country which first spanned the great ocean would have a strong and lasting advantage there, if not a permanent cable monopoly. But at that date the United States did not possess the Hawaiian Islands or an interest in the Philippines, and our trade prospects beyond the Pacific were less inviting than now. This country will hardly postpone very long forming cable connections with its own new possessions, and this alone will necessitate a virtual spanning of the Pacific. The fact that it is not absolutely necessary for an American cable to be laid in order to give us connection with the Far East will hardly have more weight with the United States than like considerations have had with the French and German nations in regard to the laying of cables owned by their own people across the Atlantic. As for the delay in starting a Pacific cable, it may be said that such an enterprise has not been discussed here nearly so long as it was discussed in Great Britain before the contract for their cable was awarded. Besides, the political and military argument for an American cable has only of late come into existence. There will be work yet for American cable building companies.

EXPORTS OF RUBBER GOODS from the United States and from Great Britain to the Argentine Republic during 1899 were as follows, according to an English authority:

From the United States.....	£ 4,132 (= \$ 20,660)
From Great Britain.....	23,481 (= 117,405)

As the English writer says: "The Argentine is inhabited by people chiefly of Spanish and Italian descent, who are no more inclined to favor English than German or United States manufacturers, while the tariff is the same for all." It is worth while for American rubber manufacturers, therefore, to consider why such a preponderance in the trade above referred to goes to their competitors beyond the Atlantic?

THE CRUDE RUBBER SITUATION is ever a topic of engrossing interest to the manufacturer, since upon the supply, quality, and cost of the raw material is based the whole industry, to say nothing of the subsequent sale and consumption of the goods produced. We are writing this paragraph to call attention to a change which is being made in the arrangement of the contents of THE INDIA RUBBER WORLD, by which the department headed "Review of the Crude Rubber Market" is gradually being made to embrace articles and items which formerly were scattered throughout the paper. It is hoped that this department will, with the progress of time, become increasingly interesting and valuable to all readers who are concerned in any way with the state of the rubber market.

THE INCREASING PRODUCTION OF BALATA for several years past, together with the absence of a material decline in prices, is evidence of an increasing consumption of this gum. But, with all the increase in the consumption of India-rubber in the United States, it does not appear that any more Balata is used here than formerly. It would appear that the chief consumption is in Germany, in which country the importation grows yearly. If Balata has merit in one country, it ought to have in others, which suggests that perhaps there is an opportunity in the United States for some enterprising manufacturer to adopt the methods of treating Balata which have proved successful in Europe, and thereby make a profit from putting on the market a line of goods involving the use of this gum.

QUALIFICATIONS OF SALESMEN.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have for some time past been reading with great interest your correspondents' articles on the qualifications of a salesman. In the rubber line, as in all lines that are susceptible of adulteration, in a manner not easily determined by the consumer or dealer, a great deal more of the buyer's confidence is required than in those lines whose value is easily determined. In the latter, only price and quality interest the buyer, while in the case of rubber goods, what the buyer is told by the salesman more often influences the direction which the order takes, and the buyer, knowing his weakness in this matter, very naturally leans towards the man in whom he has the most confidence. That man is likely to be the one who is best posted on his line. By being posted, I do not mean that one should necessarily have a factory training, although that cannot possibly do a man any harm, provided he has been taken away from it early enough in life to adapt himself to his new surroundings as a salesman.

But I mean by being posted that a salesman should acquaint himself with those matters which are likely to interest those buying rubber goods, either as a consumer or dealer. Knowledge of the various kinds of rubber, which are exported from Pará and Africa and other places, would be sure to be of value. If a salesman can quote the market value of Pará and African sorts and show the amount of exports in his own line, he is all this time impressing his customer with the fact that he is in earnest in his business and is worthy of his confidence. Knowledge of how rubber is grown, how the same is taken from the tree, and how it is coagulated cannot militate against him in a conversation with an intelligent perspective customer.

I believe that frequent meetings between the heads of the departments and the travelers are very beneficial if they are conducted honestly. I do not believe, however, that they have any value if facts are to be suppressed and compliments bestowed on those who called the meeting. The dissecting of the goods, the honest argument that is sure to follow when one salesman claims that another house is producing an equal article for less money than his firm is putting out at a higher price, the merits of the duck (if it should happen to be a belt), the closeness of the weave, the looseness of and the strength of the friction, and the quality of the cover, are all sure to be discussed very thoroughly, and if the opposition are really doing better than the other fellow, then the other fellow sees the point and it is not long before his belt is either lowered in price, or the quality improved, and every salesman who has been to that meeting is wiser; he is more loyal to his house and he has learned that all that is necessary is for him to find the weak points in his line and that his firm is more than willing to correct them, but life is short and the manager does not have so much time on his hands that he can always educate his travelers, and the traveler must rely on himself to a very considerable extent.

How then is he to learn the things that will interest his customer, as well as benefit himself? He must first of all read his trade journal and not least of all the things to be found in his trade journal is the advertisements. This gives him a line on what his competitors are offering, and frequently gives him an idea of their method of marketing what they consider high grade articles. He must study the market. He must, in a word, learn what the people in his world (the rubber world) are talking about and what they are putting on the market. He must or should know these things long before he has actually seen a sample of some new and much talked of article, so that

when he does finally get to the sample, he will not pass it without taking a good long look, and determining to his own satisfaction the merit or lack of merit in the article, but he must follow his trade journal, or he may never know until a customer tells him that the article is in existence, and it may be months before he can give his customer some doubtful reason why he should not use the article referred to.

I should think that much could be done in the way of educating the rubber salesman in his line by forming a fraternal organization. Other trades have it and much good is done thereby. There are no more thoroughly good set of fellows under the sun than the rubber men. There are enough of us to form one of the strongest social, educational, and beneficial organizations in the country to-day.

R. C. K.

April 15, 1901.

FLOUR IN CRUDE RUBBER.

THE late Joseph Banigan once issued a circular letter in relation to the extent to which Pará rubber was being adulterated during the process of curing, in its original preparation, and called upon other rubber manufacturers to join him in trying to check the evil. The circular said "that a farinaceous floury matter had been discovered in the mixture, and was made with such villainy that it is difficult to detect, and it has interfered with our manufactured products." But what Mr. Banigan complained of was no new thing; nor have the sporadic efforts, made at times in all the leading markets, ever resulted in wholly stopping the use of other vegetable products of the Amazon valley in making rubber. As long ago as 1850 Lieutenant Herndon, of the United States navy, on making an exploration of the Amazon under orders from his government, took pains to study the crude rubber business as then conducted. He reported that there was much deterioration, due to the tricks of the natives. For instance: "The rubber is frequently much adulterated, by the addition of tapioca or sand, to increase its weight."

In a book entitled "In Amazon Land," by Mrs. M. F. Sesselberg, published in 1893, are chapters on life among the rubber gatherers, from which one extract is pertinent here: "In the great rubber emporium, Pará, the soul of the princely rubber merchant is grievously vexed at the tricks civilization has taught many of these rubber gatherers. Balls of clay, sand and what not, are introduced into the *pranchas*, or moulds, to increase their weight. To augment the quantity of milk, sap from other trees is mixed. And worst of all, to avoid the tedious process of preparation, the *seringueiro* (rubber gatherer) makes a blazing fire, and when the milk is liquid, puts in a kind of flour, and if this causes it to coagulate too quickly, acid like lemon is added, to prevent its consolidation. Consequently the purity of fine rubber is greatly damaged."

THE New York Chamber of Commerce, at a recent meeting, adopted a report from its committee on foreign commerce and the revenue laws, urging the importance of the construction of an American Pacific cable, as a means of promoting trade direct with Asia, but favoring the idea of a privately owned cable, for the reason that fewer facilities would exist for effecting a landing on Asiatic shores for a cable owned and controlled by the United States government.

THE new schedule of import duties in Venezuela imposes upon rubber belting, hose, and tubes a rate equivalent to 14.46 cents per kilogram, and on other manufactures of India-rubber, 48.2 cents per kilogram.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THAT Antwerp is making great strides in the way of becoming a formidable rival to Liverpool as a raw rubber market is pretty well known, though it is rather too soon to say what the ultimate effect upon the Liverpool merchants will be. From direct information I have received it would seem that the trade done by Antwerp houses with British rubber firms is rapidly increasing, last year over 300 tons coming over here. Special attention is being paid to the greater

purification of West African rubbers, more particularly in the case of Congo sorts, the trade in which from the interior is now greatly on the increase. Samples of Congo ball which I have recently seen, and which are sold as practically free from water and dirt, are certainly an advance on a good deal of what comes to Liverpool in the ordinary way, though it must be confessed that in some cases the rubber looked suspiciously like being overheated, to use a technical term for the appearance of a tarry exterior. Rubber in this state is likely to prove inferior in lasting power to that in which the resinous matter has not been allowed to melt by the heat of the sun or other agency, and it would seem that some caution should be exhibited by buyers before taking it for granted that rubber prepared under scientific supervision is necessarily superior to that which has been prepared by crude native methods. Certainly there is every reason to suppress the import of sand and water, not only to save freight charges but because the value of the product is then much more easy to be got at. The improvement in the preparation of certain sorts of African rubber for the market is undoubtedly one of the features of the trade to-day and its progress will be watched with interest. Belgium is probably alone among nations who possess a monarch with a keen interest in trade that is a personal apart from a political interest, and the rubber trade has especially engaged the attention of King Leopold. According to one of our society papers he was closely studying "Gutta-percha" at the recent automobile show in Paris. It is hardly necessary to draw attention to the well known ignorance which here shows itself in the confusion of India-rubber with Gutta-percha, and no doubt from such a source the rubber brokers of Liverpool will bear with equanimity the appellation of Gutta-percha merchants which the article in question applies to them; but to close this subject there is no doubt that Antwerp, with the intimate connection it enjoys with the prime mover in the development of the Congo Free State, will make rapid strides in the way of becoming a depot of the first importance for West African rubber.*

A PROMINENT instance of the way in which this body makes its existence justified is seen in the decision which has been come to, to support those of its members who have been threatened with proceedings by the Dunlop Tire company in respect of the sale of the basket pattern tire repairing strips. It is claimed by the Dunlop people that this non-slipping arrangement infringes Welch's patent (No. 9294 of 1894), though the impression in the trade generally seems to be that there is no

RUBBER
MANUFACTURERS'
ASSOCIATION.

*This confusion of ideas respecting India-rubber and Gutta-percha seems to be confined to no one country. In New York recently a rubber planting company, dealing in its advertisements with the great demand for rubber, to induce the public to buy its shares, stated that "30,000,000 pounds of rubber were used for golf balls and small wares during the past year."—THE EDITOR.

infringement at all; hence the action taken by the association in the matter. It is understood that the position was thoroughly discussed at a meeting of the association held on March 20 in Manchester, though, as readers of THE INDIA RUBBER WORLD are aware, strict secrecy is observed as to what transpires at these meetings.

THERE seems to be somewhat of a disposition current among those who are ill-informed on the subject to class Dermatine among the various "ines," "ites," and "oids" which, under the grandiloquent title of "rubber substitutes," have in recent years put forward claims to general recognition. This point of view, however, is not at all correct, and it is evident from the increasing favor with which Dermatine goods are being regarded that the material has come to stay. It is not, it may be mentioned, of great novelty, as it is now sixteen or seventeen years since the patent process of Mr. Zwingler first attracted attention. At first the manufacture from one cause or another does not seem to have proved a pecuniary success, and it was not until the advent of Mr. John Cooper, the present managing director, that the manufacture can be said to have made real progress, which progress must be put down to improvements in the process of manufacture as well as to business acumen. To judge by the price, which is conformable to the quality, it is pretty clear that those who pin their faith to cheapness will not be attracted, but it appears that hydraulic engineers and others who require a suitable substitute for leather, and who take into consideration wearing power, have stamped Dermatine with the seal of their approval. With regard to the manufacture, the company claim the sole rights and have on more than one occasion commenced proceedings against infringers. As a final word on this subject, it seems advisable to say that what has appeared in print regarding the formula of the compound is not from an authoritative source, and any would-be imitators who relied implicitly on such information as a working guide are hardly likely to achieve good results.

ALTHOUGH the lease of the works of this company at Tottenham has not yet run out, considerable progress has been made in the fitting up of the new premises at WARNE & CO. Barking, where the whole business eventually will be carried on. Great difficulties were experienced as regards the renewing the lease of the premises, owing to the fact that the surrounding land was being more and more utilized for building purposes, and although a rubber works cannot be classed with many chemical works as arousing the ire of residents of the better class, yet it cannot claim to rank with, say a Parma violet factory.

THE limited firm of Grimshaw Brothers (Manchester), with whom Mr. Rowley, of Amazon rubber fame, has been long associated, has been dissolved and reformed with fresh capital as a private concern, the business carried on being much the same as before.== The Rubber Chemical Co. (Birmingham), whose formation was noticed in these columns about a year ago, are taking over a mill at Streatham common, London, the rubber substitute company who had fitted it up with machinery having recently gone into liquidation.==It does not appear that the Dialene company, formed about a year ago to work one of Mr. Heyl-Dia private processes, have commenced operations. The

RUBBER
RECOVERY.

material was to have been manufactured at the works of the Hyde Imperial Rubber Co. (Woodley), for which purpose a special building was erected. Dialene, it may be mentioned, is said to be a superior form of recovered rubber which has proved its advantages in a certain rubber works where it has been made and used.

THIS company, one of the newest in Great Britain, has now been going for about a year, the works being situated at Dunfermline, Scotland. Messrs. R. W. Stewart & Co., the proprietors, have taken up the rubber business as an addition to their old established bleaching business, the rubber works being a newly built addition to the bleaching premises. Waterproofing and footwear are the principal lines of manufacture, the lead of the Victoria and Waverley companies of Edinburgh thus being followed. It is probable, however, that the manufacture of mechanicals will also receive attention in the near future.

ONE of the new London dailies recently, in a special article, advocated the utility of India-rubber as a means of deadening the vibration caused by the new electric railway from the West End to the city. The rubber was to be partially as a solid and partially pneumatic, and to lie directly under the rail. It does not appear, however, that the genius who evolved the idea troubled himself as to the probable cost of the scheme, and it is this point chiefly that has caused practical men to treat the matter as a chimera.

ALTHOUGH the mill which this new company are fitting up is not yet completely equipped, manufacturing commenced last month to a small extent, a couple of spreading machines having been got to work.

MR. ECCLES, late manager of the Castle Rubber Co. (Warrington), has been appointed manager of the rubber department of Reddaway & Co., Limited, the well-known belting manufacturers, and has vacated his position on the board of the Rubber Manufacturers' Association. — Mr. Dawes, late of Capon Heaton & Co., is the new manager at the Hyde Imperial Rubber Co., where several alterations in the directorate and staff have recently been effected. — Mr. Bate, who has long been connected with the works, is now the manager at the Castle Rubber Co. — Mr. C. J. Margetson, formerly manager of the London branch of the Avon Rubber Co., is now at Messrs. Hopkinson's works at West Drayton.

WITH the collapse of "Fenton's" and "Oxolin," further illustrations are afforded of the dubious character of such industrial enterprises as investments. Information with regard to the present position of "Velvriil" is difficult to obtain, and there is nothing definite to be recorded concerning the progress of this material. "Volente Limited," having been wound up and reconstructed, is now making a fresh bid for popular favor in connection with a material into which Pontianak gum is said to enter largely.

THINGS seem to be rather quiet in this department, and in some cases short time has been worked. With regard to the large profit made by Mandelberg & Co., it should be remembered that the firm have done a large trade in rain proof cloths, into which rubber does not enter, and it should also be remembered that for some years after its formation the company paid no dividend at all, and it is possible—though this is merely conjectural—that it may have been hoarding its resources. With regard to the effect which the rain proof cloth business has had upon the gen-

uine mackintosh trade, it seems to be the case that it has been quite insignificant. The people who have been most affected are the tailors and outfitters, as the waterproof firms now supply direct overcoats at a considerable less cost than the tailors have been accustomed to do.

It seems doubtful if many of the motor tires sold of late years in England have been really of British origin. These tires, the pneumatic ones, that is, cannot be sold in Great Britain except under the Dunlop company's license, but there is nothing to prevent this company or its licensees from buying them cheaply on the continent and retailing them at their own figure over here. This, I am assured, has been the case, though now the Dunlop company are putting down the necessary vulcanizing molds, etc., at their works in Birmingham, in order to carry out this increasing trade entirely themselves. Whether they will succeed in gaining the confidence of the buyers is rather a matter for conjecture, as it may be supposed that there are many details in connection with the celebrated Michelin tire, of France, which are not public property, and the acquisition of which may take considerable time and labor.

MR. DAVID MOSELEY still remains in a very weak condition and is making but slow progress towards recovery. — Mr. H. L. Terry has been elected a member of the committee of the Manchester section of the Society of Chemical Industry of which society Dr. Charles F. Chandler, of New York, was last year's president.

EUROPEAN RUBBER NOTES.

ACCORDING to the *India-Rubber Journal*, the London agent for the Russian-American India Rubber Co. (St. Petersburg) reports a steady increase of trade at his agency, "although the shapes for Russian use and the English market are very different." — By the way, Russian manufactures are to be shown on an extensive scale at the international exhibition which is to be opened this month at Glasgow, and rubber goods are mentioned among the products which are to receive special attention. No doubt the Russian "galoches" will be displayed prominently there. — It does not appear that the British rubber industry is to be represented at Glasgow to any important extent.

— J. Mandelberg & Co., Limited (Pendleton, Manchester, England), mackintosh manufacturers, report a profit for the past business year of £48,862 15s. 3d. Dividends have been declared of 7 per cent. on the preference and 15 per cent. on the ordinary shares, after paying 5 per cent. interest on the debentures—a total disbursement of £25,082 15s. The reserve fund was increased by £15,000.

— Mr. Isidor Frankenburg, of the Greengate Rubber and Cable Works, Salford, Manchester, who had been a member of the Salford council since 1887, was recently elected to the position of alderman.

— Dr. Carl Otto Weber, for many years past managing chemist for Isidor Frankenburg, Limited, of Manchester, was recently elected a director in that corporation.

— The Vereinigte Gummiwaaren-Fabriken Harburg-Wien, in answer to an inquiry, inform THE INDIA RUBBER WORLD that they have not, as was reported, established a branch at Dresden-Radebeul for the manufacture of their pneumatic tires, but simply an agency for their sale.

— The United Berlin-Frankfort India Rubber Co. have declared a dividend of 7 per cent. on the business done in 1900, thus restoring the dividend to the former rate, after having paid only 5 per cent. in 1899.

SCOTTISH CENTRAL
RUBBER CO.

A BRILLIANT
SUGGESTION.

NORTH CHESHIRE
RUBBER CO.

CHANGES
IN STAFF.

RUBBER
SUBSTITUTE
COMPANIES.

PROOFING
TRADE.

MOTOR
TIRES.

PERSONAL.

THE MANUFACTURE OF RUBBER PACKINGS.

By John S. McClurg, M. S.

[CONCLUDED FROM LAST MONTH.]

ANOTHER grade of packing, commonly known as "pure gum," is that which has neither cloth insertion nor cloth applied to the outside. This usually has a much better quality of stock than any of those already described, as the rubber must give to the packing the strength and firmness which in other cases have been imparted by the sheeting. Here, also, more care should be exercised in the preparation of the batches. They should be well ground and mixed, and then permitted to dry and season before making up.

When ready, a batch is taken to a mill and warmed up, preparatory to building up the packing on the calender. The writer has found that not enough importance is attached to this warming up process by most manufacturers. If it is done properly and carefully, much of the difficulty in calender work can be overcome. When the calender is at the proper heat, begin to feed the compound into it and run out a thin layer of gum to the length required in the roll. The roll is now run through the calender again and another layer applied to it, and so on, until the desired thickness is obtained, care being taken, of course, while running, to prick all the air bubbles, thus permitting the plies to come closely together, and also preventing blisters in the curing. This layer process has a great advantage over the process of running the full thickness at one time, because it secures for the packing a more compact body and greatly reduces the possibility of defects in the finished product.

The packing is now rolled up on a drum provided for the purpose and, after being well wrapped with several thicknesses of wet muslin cloth, it is consigned to the vulcanizer to be cured, or rather semi-cured, before taking it to the press to be plated, and the cure completed. This having been done, the roll is now taken to the hydraulic press where the process is the same as previously described, except that with pure gum packing the edges of the sheet should be well blocked up. By blocking up is meant that two bars of iron the length of the press, and the same thickness as the packing, are placed against each edge of the packing one on each side in the press. This prevents the packing from spreading or becoming porous on the edges while subject to the heat and pressure. It is also a saving as it does away with much of the trimming at the finish.

The next, or the highest and best grades of packing—those designed for resisting excessive heat—are, perhaps, the most important of all the different varieties now manufactured. These packings usually contain in their composition finely pulverized asbestos or some other material not readily affected by heat. They are invariably subjected to high temperatures and very often for considerable lengths of time. It is important, therefore, that the composition should receive much attention as to the ingredients which enter into it. Unusual care should be exercised in milling and grinding the compound to insure the even distribution of the various ingredients through the entire body of the batch and to render it smooth and even. After this has been done the batches should be piled up in a dry place to season, dry, and harden. A couple of weeks is not too long and will be found very beneficial.

When the batches have been sufficiently dried they are taken to a mill and warmed up as other packings, before sheeting it out on the calender, and the roll is ready to be started. The

heat of the calender rolls is an important item in the manufacture of this packing, as much care must be exercised to prevent any extraordinary swelling or shrinkage of the stock. Here, too, the sheet is run off in layers as before described. As the finished sheet comes from the calender it is wrapped upon an iron drum, as are other pure gum packings, and then the outside is well wrapped with several thicknesses of wet muslin cloth, and then consigned to the vulcanizer to be cured. After this has been done the packing may be taken to the hydraulic press and plated. With this packing the pressing process is discarded in many cases and the packing is completed with the removal from the vulcanizer. This leaves it with the impression of the muslin lining upon its surfaces, instead of the smooth shiny surface imparted by the press.

Experience long has taught that a long curing process at a low temperature is the best of this quality of packing, as indeed it is for any compound which contains a considerable proportion of crude rubber. A short cure at a high temperature is very liable to produce porousness and other defects, while the long cure insures a solid compact body, more pliable and perfect. Pure gum square packing, which is so largely used, is made in much the same manner as the pure gum packing.

The batches are prepared and afterwards warmed up for the calender in the same way, and are then sheeted out on the calender in lengths ranging from 12 to 20 feet, or whatever length is desired in the finished coil. Here, also, these slabs are built up in thin layers one top of the other until the desired thickness is obtained. It is then sent to the vulcanizer to be cured, after which it is taken to the hydraulic press and plated as before described.

This being done, the slabs are laid aside to be cut up into square sections. These slabs are never less than $\frac{1}{4}$ inch in thickness and range from that on up to 1 inch, and in some rare cases to $1\frac{1}{2}$ inches. To cut these strips the slab is laid on a wide table where it is securely fastened to prevent motion while being cut. The cutter is usually in the shape of a plane provided with an adjustable knife which can be set at any length. With this instrument the slab is cut into strips corresponding in width to the thickness of the slabs. These strips are now coiled up and securely tied, which completes the process.

This very nearly completes the list of rubber varieties; the next kinds to be considered are the duck packings or those varieties composed largely of duck. Square duck packings provide for the consumption of large quantities of otherwise waste pieces of frictioned duck which must naturally accumulate during the manufacture of rubber belting. These odds and ends of duck are cut into convenient sizes and filled into the center or body of the slab of packing. The duck used in making this kind is usually light weight belt duck—about 22 or 24 ounces.

This duck is run over a series of hot iron rolls to eliminate all the moisture, after which it is taken to the friction calender to be coated on each side with rubber friction, which causes the layers of duck to vulcanize securely together in the curing process. The roll of duck is now taken to a room provided with a table 50 feet or more in length, on which the duck can be unrolled. The duck is stretched out on the table and cut into bias strips about $3\frac{1}{2}$ feet in length until the roll is cut up. These bias pieces are now laid end to end, lapping each over

the other about $\frac{1}{2}$ inch, and rolling down with a hand roller to press them firmly together. This is continued until the desired length is obtained—usually 12 to 20 feet.

Another ply is now built up in the same manner, while the scrap pieces are here filled in as well. If these pieces have become dried from age, a little quick curing cement applied to the surface will restore the friction and make it stick securely. When the slab has attained the desired thickness, apply to the outsides a layer of duck frictioned on one side only—the side placed next to the packing.

This packing is usually made in slabs from $\frac{3}{8}$ inch to 1 inch in thickness, though sometimes it is made even thicker. These slabs are then taken to the vulcanizer and cured, after which they are confined in the hydraulic press to bring the plies firmly and solidly together. The slabs are next placed on a table and cut into strips in the same manner as the pure gum packing.

Hydraulic packing, which sometimes is called linen packing, is made in exactly the same way as the square duck, but the duck and friction which enter into its composition are entirely different. The duck used here is very strong but light in weight, and to combine these two qualifications leather cloth is most universally used. The friction should be a hard curing compound, which will not burn while being subjected to the excessive heat necessary to produce this packing. After the strips of duck have been cut and the slab made up and vulcanized, it is cut into strips and coiled up as in the case of square duck. Now comes an extra process, whereby the packing is made to conform to any degree of hardness, even to flint hard. The coils are taken to a small hydraulic press, where they are subjected to a long curing process at a quite high temperature, until they obtain the degree of hardness desired. The reason for cutting this packing into strips before this last process is begun will be comprehended when it is explained that it would be almost impossible to cut it after becoming so intensely hardened.

Next in order is rubber-back packing. This consists of the regular square duck packing with a strip of pure gum packing securely vulcanized on one side of the square section. To make this, stretch a slab of pure gum packing upon a table and with a brush cover the upper surface with several coats of quick curing cement. When this cement becomes perfectly dry the strips of square duck packing are laid side by side on the cemented side of the rubber until the entire surface is covered. After it becomes well set take the slab to the press and confine it between the plates until the cement is cured, after which it is cut into square strips, as with other square packings.

Last of all comes the rubber core packing. This is not so generally used, yet it is fully as important, and the process of manufacture is most interesting. This packing has a round core of pure gum running through the center of the strip from end to end. The round piece of rubber is run out through a tubing machine and cut off in lengths of 12 or 15 feet, or any other length desired in the finished packing. The frictioned duck which makes the outside covering of this packing is prepared in the same manner as for other duck packing. It is also pieced together from bias sections and then cut into strips of sufficient width to make the correct diameter when rolled around the rubber center.

The rubber core is first well covered with cement and the edge of the strip of duck placed securely along the cord. The cord is now laid between the two bottom rolls of a three roll wrapping machine, after which the top roll is lowered securely against the cord.

While the rolls are turning the cord around, some tension

should be placed on the duck to cause it to roll up tightly and evenly around the cord. These round strips are now wrapped with wet muslin cloth and consigned to the vulcanizer to be cured. This done the cloth is removed and the packing coiled and tied up for shipment.

This review gives a general idea of most of the kinds of rubber and duck packings now on the market. It is safe to predict, however, that with American genius at work, and in view of the continual experimenting and research, it will not be long before there will be new inventions, new discoveries, and perhaps new packings that will entirely eclipse any that are now in use.

UNPROFITABLE CAB SERVICES.

THE electric vehicle companies that started out with such a flourish a year or two ago seem to be gradually fading away. A circular sent to stockholders of the New England Electric Vehicle Transportation Co., organized to operate an electric cab service, makes a showing of assets of \$1,982,995. There are said to be outstanding 224,335 shares, on which \$10 has been paid, but the present price of \$3 per share indicates that some of the stockholders expect a considerable shrinkage from these figures of assets. No statement showing any operating profit has yet been made, and the winding up of the company is in prospect.

The Illinois Electric Vehicle Transportation Co., of Chicago, decided in March to go out of existence—in view of the losses sustained, as the directors expressed it, due to heavy repairs continually made necessary by the bad condition of the streets. The original capital of the company, \$25,000,000, was reduced some time ago to \$2,500,000. The highest price in public trading in its shares was $16\frac{1}{2}$; later as low as $1\frac{3}{8}$ was quoted. It appears that 158,620 shares were issued, on which \$793,700 had been paid in.

These companies, together with similar ones in New York, Philadelphia, and Washington, were organized as sub companies of the Electric Storage Battery Co., through the Electric Vehicle Co., of New York, and capitalized at wildly extravagant figures. With the exception of that operating in New York, it is reported that none of the companies has made any money. Their stocks all boomed tremendously at first, but a recent report on their condition showed a shrinkage of \$58,000,000 in market value from the highest. Electric Vehicle (New York), preferred, at one time reached 150; on a recent sale of 100 shares $27\frac{1}{2}$ was quoted.

It has looked very much to an outsider as if promoters' profits, rather than the introduction of automobiles, were aimed at. At any rate the lack of financial success of these undertakings, together with the withdrawal of cab services once started, will have anything but a favorable effect upon the growth of automobilism.

RUBBER INDUSTRY IN SWITZERLAND.

A REPORT on the rubber industry in Switzerland refers to the world's consumption of shoe elastics having become smaller, and says that the tendency of the demand is for thinner threads. Wherever elastic goods have been required for export in large quantities, the cheaper kinds have been demanded. The total export was increased somewhat last year, however, on account of increased orders from Spain. Not only was the continued high cost of rubber detrimental to the industry, but the cost of yarns increased, cotton in some cases as high as 50 per cent, and woolen in some cases 100 per cent.

HEARD AND SEEN IN THE TRADE.

THE hard rubber industry is reported in a very satisfactory condition—both as to the volume of business and prices obtained for goods. There was a time, not so many years back, when complaints were rife of much business done at a loss. But the manufacturers agreed to stop cutting prices, where the result meant wiping out the whole margin of profit, after which, gradually, prices were advanced where advances were necessary, until the present condition was reached. At no time was the increase marked, but the tendency was persevered in, and for the most part without any protest from jobbers or the consuming trade.

* * *

"It is a pity that the rubber shoe trade didn't follow the same course," commented a rubber man, in connection with the statements made above. "There was a time when, by making more moderate advances in prices of rubber shoes, and by pursuing a more conciliatory course in dealing with jobbers, the leaders in this branch could have insured themselves against competition for many years. No doubt rubbers were sold at too great a discount a few years ago, just as they are being sold now, but it was not good business to put back prices to a normal level all at once, instead of by degrees."

* * *

WHEN the automobile trade has reached some fixed level, and particularly when it has got beyond the control of the stockjobbing element which has figured before the public so spectacularly, the hard rubber trade will profit from the demand for cells for storage battery vehicles. Up to date the electric motor has not been a howling success, but the idea of electric traction is a fascinating one, and experimenters and inventors may be expected to keep at work until a type of construction is evolved that will be lighter in weight and more efficient than anything now in use. The electrical press encourages the hope that Thomas A. Edison's recent inventions connected with storage batteries may mark a new epoch in automobilism. So far the demand for hard rubber battery cells has been for material too thin to stand the wear and tear to which the jolting vehicles subject it—in order that as many cells as possible may be compressed within a given space—and the automobile makers have been calling for replacements where the inevitable breakdowns occur.

* * *

THE writer is assured by one rubber man who has had some experience with motor tires that the electric vehicle companies that have gone out of business in Boston and Chicago would have been obliged to do so in time—if for no other reason—because of the heavy tax upon them of replacing rubber tires. This rubber man believes in the future of the electric vehicle and of the pneumatic type of motor tire, but he insists that no pneumatic tire made with any regard to resiliency can long stand up under the excessive weight of the storage battery cars turned out thus far.

* * *

THE hard rubber goods imported into the United States—and the total is very small, as compared with the domestic goods sold here—are of three classes: (1) very cheap goods, or surplus goods sold by foreign manufacturers at any price, rather than unload them upon their home markets; (2) some exceptionally fine goods, which find their way into the trade here, through channels in which they do not always come into com-

petition with domestic goods; and (3) specialties, say for surgical use, for which the demand here is so small as not to appeal to the interest of American manufacturers. Some time ago complaint was made in behalf of home producers that imports of hard rubber were being undervalued, and the government was appealed to, since which the complaint has been no longer heard. It is doubtless the case that the charging of more than a moderate profit on home goods in hard rubber would open the way for a material increase in imports.

* * *

THERE is a steady demand for hard rubber telephone fittings. One estimate places the output of telephone receivers at about 23,000 per week, which average would give a total of 1,200,000 in a year. By the way, receivers are being sold now at only 10 per cent. of the price first charged for the same articles. Reduction in the cost of manufacture has had much to do with the decline in price. By the way, the secret of profitable manufacture in every branch is cheapening the cost of production—without debasing the goods—and not the study of how far selling prices can be cut down.

* * *

IT is a singular fact that of the many attempts to produce a substitute for rubber nowadays, all seem to be made by persons having little or no practical knowledge of rubber itself. A man in any of the chemical industries who chances upon a by product without any other conceivable use, seems most likely at once to call it a "rubber substitute," and then tries to market it. The less he knows about rubber the more sanguine he is apt to be. There would be much more reason for the rubber trade to regard a new substitute with interest if it should happen to have resulted from the practical experience of a successful rubber worker.

* * *

A CHEMIST who has been at work upon a rubber substitute lately, without having otherwise been interested in rubber, found his product criticised for the reason, among others, that the goods in which it might be employed would lack durability. "So much the better," said the chemist; "the manufacturer could make sales oftener." But the idea of making inferior goods with a view to their having to be replaced frequently, if it ever was entertained in the rubber trade, certainly does not now find favor, and the chemist here referred to showed his lack of familiarity with the rubber business by making the remark quoted.

* * *

"WHATEVER the merit of certain substitutes, and whatever the demand for a good article in this line," said a rubber factory superintendent, "there is more hope of important developments in the near future in the production of reclaimed rubber. Whether it be that sulphur is mechanically or chemically combined with rubber in vulcanization, it doubtless will be possible in time for all the sulphur to be displaced, and when this has been done, the efficiency of the resulting product probably can be brought up to near the original value of the compound. There are many bright rubber men at work in this field to-day, and the result no doubt will prove the most important advance in rubber manipulation in modern times."

* * *

ONE of the leading mechanical rubber firms is preparing a catalogue in French. It may prove a good idea. There is an im-

portant share of the commercial world now open to industrial America in which the salesman who speaks only English is at a disadvantage, and where catalogues printed in English can hardly be of any use. Several American firms have distributed catalogues in Spanish in countries where that is the language of commerce, and there is equally good reason for preparing advertising matter in French and German to reach the trade of certain other sections.

* * *

WHEN even elaborate catalogues can be had for the asking, the average man is not apt to appreciate the cost of preparing them. The latest catalogue of one rubber firm cost 30 cents each for the printing alone, or \$300 per thousand, and they have a good many thousand customers. The firm issue new catalogues frequently, and their printers' bills must be rather heavy.

* * *

AT this season rubber shoe catalogues come falling like leaves in autumn. The United States Rubber Co. probably have issued a million catalogues and price lists in a single year, and most of the other companies in that line are liberal in distributing printed matter. And yet the trade is never satisfied. A single rubber shoe jobbing house has been known to ask for 50,000 catalogues to distribute among its customers. Some years ago, when the question of revising mechanical rubber prices was up, a leading manufacturer opposed it, saying that his firm had circulated not less than 800,000 catalogues and lists, some of which had found their way to every part of the world, and he favored letting the printed prices stand and changing discounts as a more convenient means of dealing with the question. The other firms agreed with him.

* * *

THERE is no such prodigality of catalogue distribution elsewhere. One of the great European rubber factories is still using an illustrated catalogue of 1885, quoting different discounts whenever change is desirable. Two other important concerns who were asked lately for their catalogues replied that they issued none, for the reason that their goods were manufactured for the most part on specifications from customers, and they saw no need of catalogues.

* * *

AMERICAN rubber manufacturers' catalogues not only are becoming more attractive in appearance, but they are at all times of interest as indicating more clearly the character of our rubber products, and the changes from year to year, than any other branch of the literature of rubber could possibly do. The writer can but regret, however, that these catalogues are not more uniform in size, so as to permit those of a given class to be kept together more conveniently.

* * *

A RUBBER manufacturing company incorporated under New York laws has lately been dissolved, and a new corporation formed in another state, even though this step has made it necessary to abandon the old company name, which the founders have worked hard and long to make familiar in the trade. The reason given is that corporation taxes have become excessive in this state. It is necessary, however, that they should continue to do business in New York, and to cover this a corporation capitalized for a few thousand dollars has been registered at Albany. Several large rubber companies, incorporated originally in other states, have formed small corporations under New York laws to cover their business in this state, to avoid the heavy charges which the state would impose upon them if they transacted business here as foreign corporations, reporting their full capital invested.

MEXICAN RUBBER EXHIBITS AT PARIS.

IN reply to an inquiry regarding a report published that "eight kinds of India-rubber" were included in the Mexican exhibit at the Paris Exposition of 1900, the secretary of the interior of that country writes:

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have the pleasure of transmitting the information I have obtained with regard to the exhibits of rubber at the Paris Exposition, as follows:

All the rubber plants shown were what is known as the "hule," which is the *Castilloa elastica*, the only one profitably exploited in this republic. The exhibitors were:

Barrow, Forbes & Co., Hacienda, "San Lorenzo," Tepic.

Camacho Ismael, Hacienda "Las Conchas," Chiapas.

State Government of Chiapas, Tuxtla Gutierrez.

State Government of Tabasco, San Juan Bautista.

Ramos Brothers, Federal District.

Estate of Matias Romero, Soronusco, Chiapas.

There exist in the country other plants from which Caoutchouc may be extracted, but I do not know of any company exploiting them, and I doubt if any one will attempt it commercially until some more economical method for extracting the rubber is found. Very truly,

LEANDRO FERNANDEZ.

Mexico, March 14, 1901.

RUBBER PLANTING IN HONDURAS.

SEÑOR NICANOR BOLET-MONAGAS, secretary to the Honduras consulate general in the United States, at New York, who is developing a private plantation of bananas and other native products on the coast of Honduras, near the Guatemalan border, informs THE INDIA RUBBER WORLD that wild rubber trees (*Castilloa elastica*) are abundant in that region, and that he has planted successfully seedlings drawn from the forests. He planted last year several thousand such seedlings, which the natives brought to him for 30 cents per 100, and they are now thriving. He intends having planted this spring enough trees to increase the number to 8000, and he expects, by the time they are six years old, to be able to extract a pound of rubber per tree, on an average. The forests are not dense, and the seedlings are set out in spots most accessible to the light, about 200 to the acre, at a cost for planting of about \$3 gold (per acre). The annual cost of care of the trees is estimated at \$3 per acre. He recommends this section for rubber planting on a large scale, on account of the cheap lands, good climate, and excellent supply of labor. Señor Bolet's plantation is in the department adjoining Yoro, mentioned in the next paragraph.

There has been discovered in Honduras, in the department of Yoro, in the Pijo mountains—according to *El Pabellon de Honduras*, a semi official publication—a vine or creeper supposed to be of the same family as the African rubber vine. The explorer who made the discovery says that the vine is from 20 to 25 and even 30 meters long, the largest being half a meter in diameter. They are found clinging to the largest forest trees. The vines are bled by making incisions in the bark, but this process is not satisfactory, as the sap is thick and all of it cannot be extracted in this way. The rubber produced is described as being of good quality.

The *Diario del Salvador* reports the formation of a company to exploit rubber in the Yoro district, composed of General Don Máximo B. Rosales, vice president of the republic and secretary of war; Don Floriano David, governor of Yoro; and Don Guillermo Heyden, and Don Rafael M. López, leading merchants in the district. Honduras exported rubber in 1899-1900 to the value of \$88,842.80 (silver).

SOME SUCCESSFUL MEN IN THE RUBBER TRADE.

I.—THE LATE CHARLES M. CLAPP.

CHARLES MARTIN CLAPP was born at Watertown, New York, July 5, 1834, the son of Martin Gillett Clapp, a successful merchant, who died on November 7 following at the age of 27 years. Mary Ann Gillett, the mother of Mr. Clapp, died July 19, 1834, when he was two weeks old. The infant Charles, together with a sister, two years his senior, was taken in charge by an uncle, and shortly thereafter removed to the home of their maternal grandparents, Solomon and Martha Gillett, at Colchester, Connecticut. Few more honorable lives have blessed their generation than Mr. Clapp's grandparents, both of whom lived to an advanced age—his grandfather to 83 and his grandmother to 93 years.

Charles M. Clapp received his education in the schools of Colchester and at Monson Academy. His first experience in business was with Arms & Bardwell, leather merchants, of New York city, at their manufactory at South Deerfield, Massachusetts. He went from there in the same employers' interest to Boston, and continued with them until he reached the age of 21, soon after which he came into possession of his inheritance. He then spent some months in travel in the western United States. On returning to Boston he lived at the Parker House, being one of the first guests of that afterwards widely known hotel.

In 1856, Mr. Clapp bought out a drygoods firm on Tremont row, Boston, at that time one of the central streets in that line of business. He associated himself with Edmund B. Parker, who had some knowledge of the business, Mr. Clapp furnishing the capital. They met financial difficulties in the following year, known as the "panic year," and in December, 1858, the firm failed. Mr. Clapp not only had lost all the money he had put into the business, but became burdened with the debts of the firm, which he discharged fully a few years later.

Mr. Clapp soon afterward engaged with Henry A. Hall, a rubber merchant of Boston, as book-keeper, remaining with him four years, when he opened a store at No. 37 Milk street, for the sale of rubber goods. From the start he was successful, and in a short time he was able to cancel the debts of the house of Parker, Clapp & Co., and enter into the rubber business in his own name. Associated with him as a clerk was Robert D. Evans—since pres-

ident of the United States Rubber Co.—who in time was given a percentage of the profits of the business. In 1865, Mr. Clapp was appointed United States government inspector of rubber blankets in the quartermaster's department, located at Cincinnati, Ohio, and served until all the contracts for blankets were completed. In the early years of his career in the rubber business, he bought of Henry W. Burr and others,

land and factory buildings at Jamaica Plain, Massachusetts, which had been used for the manufacture of rubber goods. He added new buildings and plant, greatly enlarging the establishment, which was known as the "Ætna Rubber Mills." This was always his own individual property, paid for and operated solely by himself.

By 1870 the business had so increased that it became necessary to remove the store to a larger building, which was secured at No. 28 Summer street, and about that time Robert D. Evans and Levi Ladd were taken into the firm, under the style Clapp, Evans & Co. This relation continued for about two years, and in 1872 Mr. Clapp bought out his partners' interest, it being more to his mind to be free from the restraint which a partnership involved. The partnership had been dissolved and Mr. Clapp had filled the warehouses on Summer street with a large

stock of new goods, when the great fire of November 9, 1872, occurred, and his goods were consumed before his eyes. Mr. Clapp had watched the progress of the fire from the time it had attacked the Pearl street granite block of stores and warehouses through the night, and from time to time he had interviews with the chief engineer of the fire department, who



CHARLES M. CLAPP.



THE ÆTNA RUBBER MILLS.

assured him that "he would notify him if his building was in danger." And to all appearances the fire was a good distance away, when it was discovered that a large firebrand had been blown upon the roof, which caught fire, and before any one had observed it the upper floor was in flames, soon after which the rubber goods were reached and quickly consumed. Mr. Clapp did succeed in removing a few cases from the lower floor to a place beyond the range of the fire, only to find their contents stolen a few hours later. The goods had been insured largely in local companies and consequently the loss was almost total. In addition to the loss of stock, Mr. Clapp had given a bonus to his late partners.

Nothing daunted, Mr. Clapp, before another day passed, had secured part of a store on Oliver street, had telegraphed to New York and elsewhere for goods, and by the following morning had started again in business. By running his mills day and night he was enabled to fill the large orders which he soon received for blankets, coats, and other rubber goods. In six months after the fire he had made a clean profit of \$46,000. He next leased the new building, Nos. 183-185 Devonshire street, which extended through to 44-46 Arch street, and for a number of years occupied the entire building.

In July, 1874, Mr. Clapp went to Europe with his family for the purpose of placing his daughters in school at Fontainebleau, France. Before his return he visited the large rubber establishments in England, and thereby gained information which proved of advantage in his own work. In June, 1875, he revisited Europe, and spent four months in traveling with his family in England and on the continent. In 1878 he went abroad again, visiting the Paris exposition and touring in Ireland and Scotland. With these exceptions Mr. Clapp was rarely absent, for any length of time, from the daily management of his business. He continued on Devonshire street until he became obliged, by failing health, to gradually relinquish the details of business, and give it his daily personal attention. Then, for a short time, the business was carried on in a small way at No. 7 Otis street. It was a great cross to bring his mind to the belief that he must give up his plans for the future, but after a few years of experimenting in various ways, without satisfactory result, he gradually disposed of his stock of goods and retired from the city business. Two years before his death he sold the factory buildings.

It will have been seen that Mr. Clapp's business life was by no means all smooth sailing. The many difficulties and disappointments he had to overcome and the great losses he bore would have utterly discouraged and wrecked many others, but he never lost courage. For many years he was a leader in the rubber business, and eminently successful. He was conservative in method and a strict disciplinarian in business rule, and always insisted in having his wishes carried out by his clerks.

Some of the men in his employ have since expressed their deep gratitude to him for their early business training.

Mr. Clapp's last illness was the indirect result of an accident which occurred in 1864, when he was thrown to the ground by a refractory horse, his left knee being injured. Dr. Hodges, an eminent surgeon of Boston, told him that some time trouble would develop from the injury, and ordered him to remain in bed for six weeks at least. But his active spirit rebelled, and in two weeks after the accident, he was carried to a carriage daily and was driven to his office, where he spent a large part of each day thereafter. By slow degrees he regained the use of the injured leg, and for more than fifteen years it was apparently as strong as the other. In 1879 he sprained the ankle of the injured leg, and from that time he was never free of trouble from it. In July of 1889 Mr. Clapp had a slight congestive attack, which did not confine him to his bed. He continued to drive to his factory and office, and seemingly was gaining in



RESIDENCE OF C. M. CLAPP (ROXBURY, MASS.) RETAINED BY HIS FAMILY.

strength, when in October following he again sprained the ankle, and from that time he had little use of it. His mind remained perfectly clear, however, and continued as active as ever. He kept informed of the events of the day and attended to the general routine of business, while through his intimate relations with leading business men he contributed much to the success of many public movements.

Some time in October, 1890, Mr. Clapp had another slight attack, from which he quickly rallied. But in the June following he suffered from a very serious attack and for weeks his life was despaired of. It was at this time that he fought the greatest struggle of his life. When the crisis had passed he began rapidly to improve, and in six months he seemed to have taken a new lease of life. He took frequent drives, received and entertained his friends and also attended to the winding up of his business affairs, personally making sales of merchandise,

keeping his own books, and caring for his personal investments. The last entry in his books was made by him on April 29, 1897—the day before his death.

Death came suddenly. The afternoon previous Mr. Clapp had been driving with a friend for three hours and returned home seemingly as well as usual. Before retiring he wrote two important letters. He was stricken in his sleep in the early morning, and his life went out without apparent suffering or regaining consciousness at 2 o'clock in the afternoon of the same day. It has been said of him that if Mr. Clapp's will power had not been dormant at this time, he would have made a powerful struggle for his recovery and he would have won.

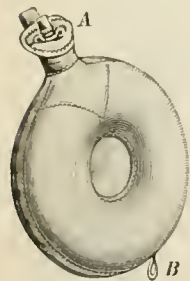
Mr. Clapp was elected a director of the Atlas National Bank (Boston) in 1874, and was active in that position until his

death. He was regarded by his associate directors as one of the soundest judges of rubber mercantile paper in New England. During the three months previous to his death, he passed upon upwards of \$700,000 of paper, without a dollar's loss to the bank. He was a trustee and an active worker in the interest of Forest Hills Cemetery, for more than a quarter of a century. He took a very deep interest in the Commercial Club of Boston, of which he was the treasurer for eighteen years, until ill health obliged him to relinquish the duties of the office. There was nothing which gave him more pleasure than the reunions of this club. He was at one time a director of the Home Savings Bank. For several years he was the general agent of the National Rubber Co. (Bristol, Rhode Island) and was interested in many other companies and institution.

NEW GOODS AND SPECIALTIES IN RUBBER.

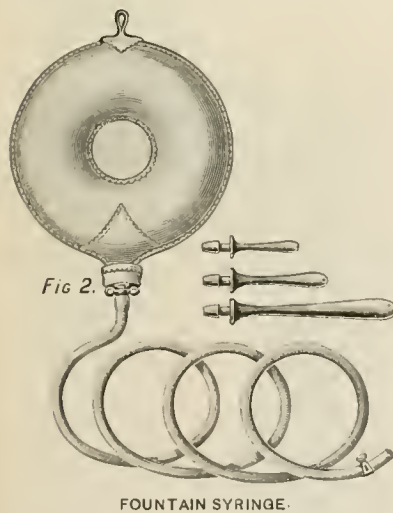
"IAMA" COMBINED WATER BOTTLE AND SYRINGE.

THE illustrations herewith will convey a better idea than a lengthy description could do, without their aid, of a patented novelty bearing the well known "Alpha" brand. In the first place, the "Iama" hot water bottle



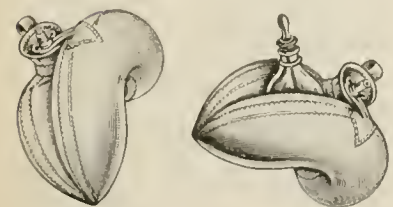
HOT WATER BOTTLE.

has an advantage over the customary form of bottle in that with a given quantity of hot water a greater heating or radiating surface is presented; besides, this shape adapts itself readily to any part of the body. There is an extra combination attachment, by means of which the "Iama" is converted into a fountain syringe. After the bottle has been filled, and the small neck C (see cut of stopper below) is turned down to meet the collar D, a free flow is permitted through the neck.



FOUNTAIN SYRINGE.

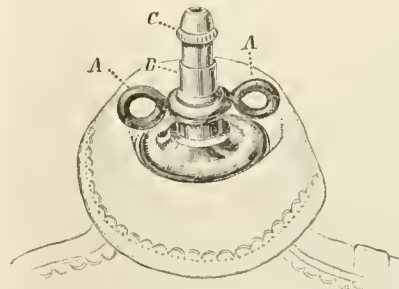
Fig. 1. the loop B on the lugs A.



FOOT WARMER. BABY FOOD WARMER.

A fountain syringe tube can then be slipped over the neck C, and the bottle suspended by the loop B, as illustrated. The bottle can also be inflated through the valve neck C, to form a complete air cushion, affording restful comfort when placed on a chair or seat. To make a foot warmer of this bottle, the loop B is adapted to slip over the lugs A, fastening the two ends of the bottle together. The "Iama" becomes a baby food warmer when filled with hot water and folded by placing the loop B on the lugs A. The water will remain hot for hours, and the nursing bottle can be placed between the folds. The last cut represents the "Iama" water bottle stopper, when the tubing connection C is screwed upward to its fullest extent.

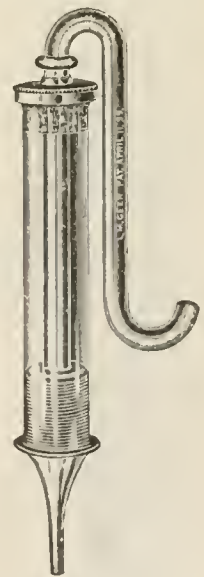
This device is fully protected by patents, including the patents pending on the water bottle stopper. [Parker, Stearns & Sutton, New York.]



WATER BOTTLE STOPPER.

THE GEER SYRINGE.

THIS cut represents a glass syringe, but as it illustrates the device to be described here, it is submitted as showing the form of construction of a syringe intended to be made of hard rubber. The "Geer" syringe provides a handle of novel construction, in connection with an ordinary syringe, which enables the operator to use it with one hand, leaving the other hand entirely free. The ability to operate this syringe with the same hand that holds it in position, makes the device desirable in that it will be possible for personal applications to be made in many cases, without assistance. It will also prove of value in the practice of surgeons and physicians, as there is no such tension on the nerves of the fingers in its use, as occurs in the use of syringes with three rings at the end of the piston rod. The claim on which a patent has been granted in the United States reads: "In a hand syringe, the combination of a cylinder, a piston, and an operating rod which is bent upon itself to form a smooth and rigid arm terminating in a handle, which, in its extreme positions, is located within reach of the fingers of the hand which holds the cylinder, thus permitting one hand to hold and operate the syringe, substantially as shown and described." Patents have been obtained also in the leading European countries. THE INDIA RUBBER WORLD has been shown letters signed by several eminent members of the medical profession in New York, commending the principle of construction of this syringe. The patentee is L. M. Geer, No. 603 East One Hundred and Thirty-ninth street, New York.



THE "STANDARD" NON-COLLAPSIBLE NIPPLE.

A GREAT variety of devices have been put on the market from time to time by which ordinary nipples are rendered non

collapsible. Perhaps the simplest form, and one of the most successful, is that shown in the illustration, and known as the "Standard." The reason why this nipple is non-collapsible is

STANDARD.



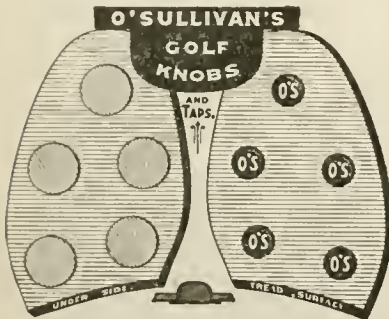
Pat. May 4, 1897.
Pat. May 9, 1899.

because in the process of molding a little rod of pure soft rubber is set on the inside. This rod is grooved, the groove leading up in the perforation in the nipple. The result is that, no matter how the end may be pressed or squeezed, it is absolutely impossible to collapse the nipple. The arrangement is exceedingly simple and clean, and better than all, effective. The manufacturers of this nipple invite special attention to the quality of the goods which they manufacture, this nipple

being of the very highest grade of pure rubber. [Miller Rubber Manufacturing Co., Akron, Ohio.]

THE O'SULLIVAN RUBBER GOLF SOLE.

THIS illustration shows the "golf knob" and also the method by which the knob has been inserted in the leather top. By using the "knob" any shoe may be converted into a golf shoe.

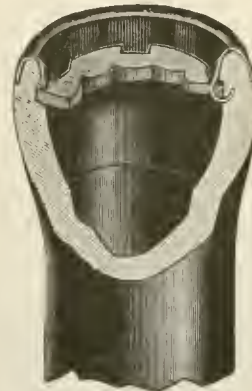


It is only necessary to go to your shoemaker, who rips the sole back to the shank, punches a sufficient number of holes through it, puts in the knobs, replaces the sole, and sews it on. This involves an expense for the work of 30 or 40 cents, perhaps, besides the cost of the

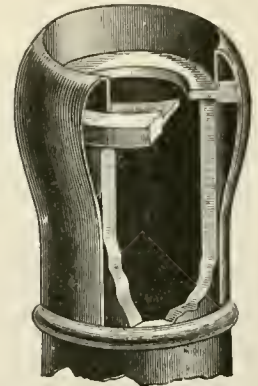
knobs, which will be 20 cents, if ten of them are used. A marked advantage is claimed for this plan, as compared with the use of rubber knobs that are nailed on and are liable to pull off. A wide flange at the back of these knobs prevents their pulling out. [O'Sullivan Rubber Co., Lowell, Massachusetts.]

WHIP SOCKET RUBBERS.

NEARLY seventy large pages in a catalogue of carriage and sleigh goods issued recently by a single manufacturer are devoted to "whip sockets" alone, showing what a wide variety in such articles is demanded in the carriage trade, embracing, as it does, so great a diversity in styles of vehicles and their appointments. It is interesting to notice that in the greater number of cases the whip sockets referred to are fitted with India-rubber, as a means of protection to the whip stocks. Of the larger illustrations at the foot of this page, the first five illustrate as many different styles of whip socket, each with a different form of rubber insertion at the top, for the protection of the whip. The sockets themselves are metallic, with the

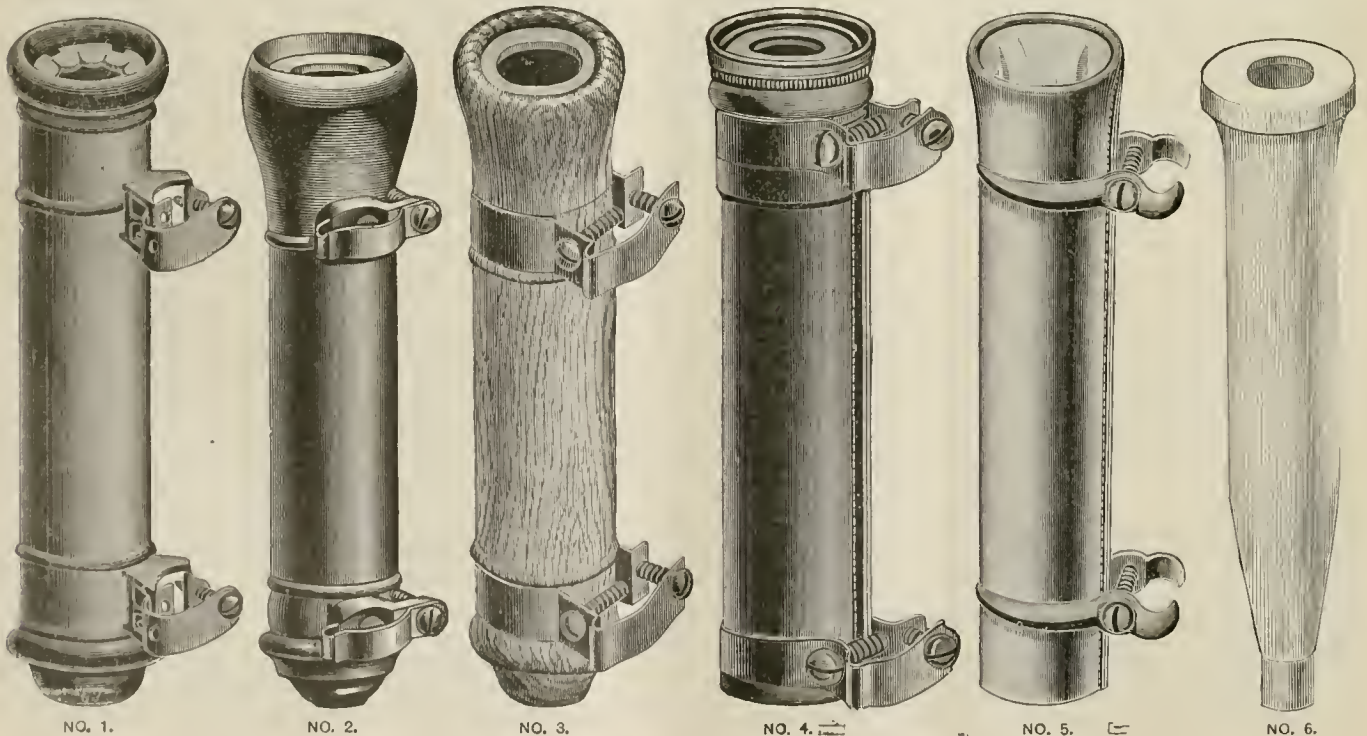


RUBBER HELD BY HOOKS.



RUBBER HELD IN VISE.

exception of No. 3, which is of wood. Some of the sockets, however, are supplied with rubber lining for their full length, a specimen of such lining being shown in illustration No. 6. In such cases the lining and top rubber are of a single piece. Such linings are referred to as being the only perfect protection to the finest whip handles. By way of holding the rubber in place in the tops of these sockets, two methods are employed, as illustrated in two smaller cuts, also on this page. In one is shown a sectional view of a metallic shell top, in which



NO. 1.

NO. 2.

NO. 3.

NO. 4.

NO. 5.

NO. 6.

the rubber is held in place in a vise. In the other, the metal cap is provided with hooks which hold the rubber in its position. [The Searls Manufacturing Co., Newark, New Jersey.]

ATOMIZERS FOR FLORISTS' USE.

THIS atomizer is designed for the use of florists and gardeners who desire something to enable them to mix or temper hot and cold water before applying it to plants, and also to mix liquid



fertilizers in the stream of water. It is connected in the length of hose as shown in the cut, and by means of suction it produces in the piece of hose extending into the barrel, will mix warm water, liquid fertilizer, etc., with the water, which can be distributed where desired through an ordinary nozzle. To operate the atomizer, connect as shown in the cut, and, after turning on the water at the source of supply, close the nozzle so that the stream will pass down through the suction into the barrel. This will force out all the air that is in the hose. Then the nozzle is opened, and the atomizer will operate in the desired manner. The proportion of the mixture can be varied by changing the size of check used on the nozzle. [Boston Woven Hose and Rubber Co.]

connect as shown in the cut, and, after turning on the water at the source of supply, close the nozzle so that the stream will pass down through the suction into the barrel. This will force out all the air that is in the hose. Then the nozzle is opened, and the atomizer will operate in the desired manner. The proportion of the mixture can be varied by changing the size of check used on the nozzle. [Boston Woven Hose and Rubber Co.]

THE NEW "SCHOOL GAITER."

THIS illustration gives a fair idea of the appearance of a line of goods, which has survived the period of probationary introduction with such success that it appears in a number of rubber shoe catalogues this season. It is a heavy two buckle gaiter, fleece lined, waterproof to the top, being just the thing for the service indicated by its name—

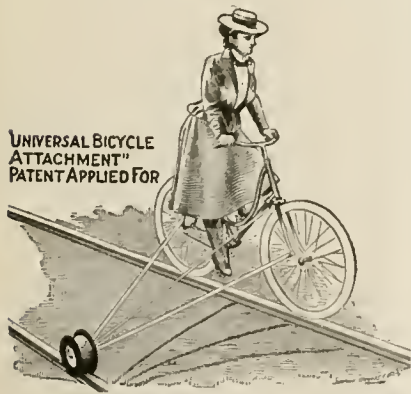


the "School gaiter." It is made up for women, misses, and children, and listed at \$1.60, \$1.30, and \$1.10 respectively. The cut herewith is reproduced from the catalogue of the American Rubber Co.

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"UNIVERSAL" BICYCLE ATTACHMENT.

A NEW use for rubber and a new use for the bicycle has lately been brought before the public. By an ingenious contrivance, easily attachable and detachable, any bicycle rider can make of his wheel a railroad bicycle. In using the attachment he rides on one rail on his wheel, the attachment holding in place on the other rail a third wheel, rubber tired. There is an arrangement of flanges which make it impossible to leave the track, even when running very



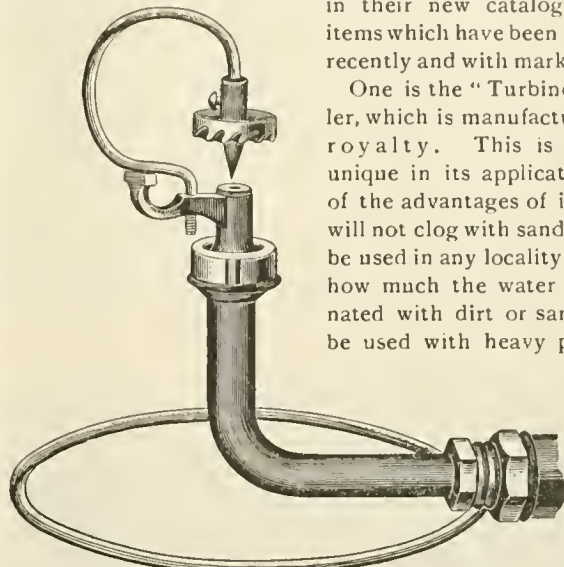
UNIVERSAL BICYCLE ATTACHMENT PATENT APPLIED FOR

make it impossible to leave the track, even when running very

rapidly, which can be done with perfect facility. [The Universal Co., No. 205 Lake street, Chicago.]

SOME W. D. ALLEN SPECIALTIES.

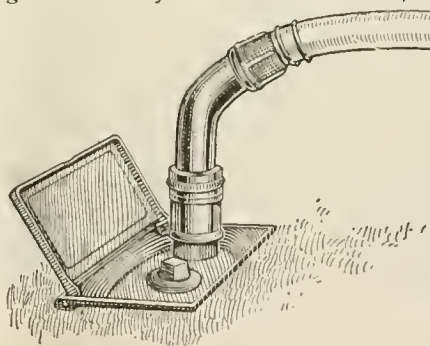
THE W. D. Allen manufacturing Co. (Chicago), who probably are the largest manufacturers in the world of revolving lawn sprinklers and other sprinkling devices, number in their new catalogue several items which have been introduced recently and with marked success.



"TURBINE" SPRINKLER.

One is the "Turbine" sprinkler, which is manufactured under royalty. This is somewhat unique in its application. One of the advantages of it is that it will not clog with sand, and it can be used in any locality, no matter how much the water is impregnated with dirt or sand. It can be used with heavy pressure of water or light and it gives uniform results in either case. The manufacturer

supports it and the revolving head can be inclined at a variety of angles, giving different results, the head may also be used separately and attached directly to the hose and used in this way. The manufacturers claim that this sprinkler gives a greater variety of results than any other. A glance at the cut will show



"GOOSE NECK" CONNECTION.

how it can be dragged about the lawn, thus possessing the advantages claimed for the sled sprinkler.

The "Evanston" sprinkler, which is manufactured by this firm, and was introduced a year ago, has been improved and a new variety added,

with center sprays. This sprinkler is one of the medium priced sprinklers, which has found a very ready sale on the Pacific coast.

The Chicago "Goose Neck" connection, which is also illustrated, is described as one of the things which "fill the long felt want." It is simple in construction, perfect in execution, and it is put on the market at a reasonable price.

In their mill supply department, this firm also manufacture "Dewey Armor," which is shown on another page; also "Dewey" hose racks and Ryerson reels. This firm report that they have received recently a large number of export orders, principally from Australia, and also state as an interesting incident, that within one year after the entrance of Admiral Dewey into the harbor of Manila, they had shipped a large order of "Dewey" hose racks to Manila for use in the warehouse built by the United States government at that point.

The trade are invited to ask for Catalogue No. 12, issued by the W. D. Allen Manufacturing Co., No. 151 Lake street, Chicago.

GROWTH OF THE DIAMOND RUBBER CO.

THE management of the Diamond Rubber Co. (Akron, Ohio), in reviewing the phenomenal growth of their business, do not hesitate to predict that if the same rate of growth continues they will ere long operate the largest rubber plant in the world. Nor is this an extravagant statement, when one remembers that it is but three years since Messrs. Walter B. Hardy, William B. Miller, and Arthur H. Marks, all experienced rubber men, went out from the East and took active management of the Diamond Rubber Co. as president, secretary, vice president and superintendent respectively. At that time the plant, although large, was only partially used in the manufacture of a mixed line of mechanical rubber goods, druggists' sundries, and tires.

Immediately after the works were turned over to the new managers extensive improvements were inaugurated in both office and factory. New machinery was installed, additional buildings erected, and a strong selling force organized. The business at once expanded with remarkable rapidity, and to-



day, in spite of the three years of continued improvement and added facilities, the plant is inadequate to the company's needs.

An illustration shows the factories as they appear to-day. There are in the present property twenty-one acres, fourteen of which are now covered with buildings. Another substantial addition will be made at once, ground having been broken April 1 for a factory building, 100x400 feet, five stories in height, which, under the contract, is to be completed August 1. It is difficult to give an idea of the size of a business by the mere quoting of figures, but manufacturers will appreciate the present size of a plant which has an engine capacity of 3000 horse power, a boiler capacity of 4000 horse power, which operates some 60 mixing mills, 15 calenders, and employs some 1300 work people.

THE Continental Caoutchouc und Guttapercha Compagnie (Hanover, Germany) have declared a dividend of 45 per cent. on their business of last year. An addition of 3,000,000 marks is to be made to their capital account, which, by their last report, stood at 6,169,787 marks.

EXPORTS OF AMERICAN RUBBER GOODS.

THE total exports from the United States of goods classed as "Manufactures of India-rubber" during the first eight months of the fiscal year beginning July 1, 1900, were:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-Jan	\$304,762	\$587,687	\$963,740	\$1,856,189
February, 1901	38,747	24,592	148,968	212,307
Total	\$343,509	\$612,279	\$1,112,708	\$2,068,496
1899-1900	357,990	281,107	876,259	1,515,296
1898-99	(a)	188,674	899,044	1,087,718

(a) Not separately reported prior to July 1, 1899.

The number of pairs of rubber footwear exported was 1,268,585, against 530,071 in the same months of the preceding year.

At the same rate the exports of other rubber goods than belting, packing, and hose, and boots and shoes, will amount, this fiscal year, to \$1,769,056. A rubber man whose opinion

was asked as to the character of goods embraced in this miscellaneous classification, said: "Rubber clothing has always been exported from this country in good amounts. It goes to Mexico, Central and South America, Cuba, and elsewhere, and is classed as 'rubber goods.' Then there are druggists' sundries, toys, rubber thread, tires separate from bicycles or carriages, and almost everything else in rubber. The amount may generally be small in each case, but the aggregate is becoming larger every year. Hard rubber must also be included. One hard rubber company here finds that it pays to maintain a representative in London, and

this means that they are exporting goods."

Exports of reclaimed rubber during the same months were:

1898-99.	1899-1900.	1900-01.
\$213,469	\$297,325	\$299,575

Imports of India-rubber and Gutta-percha goods for the same eight months have been:

	1898-99.	1899-1900.	1900-01.
India-rubber goods	\$222,352	\$369,455	\$295,781
Gutta percha goods	72,527	145,547	120,803
Total Imports	\$294,879	\$515,002	\$416,584
Reexports	10,054	12,376	14,666
Net Imports	\$284,825	\$502,626	\$401,918

BOSTON RUBBER SHOE EXPORTS FOR FEBRUARY.

	Pairs.	Value.	Value, 1900.
To England	24,498	\$7,090	\$7,633
To Nova Scotia	1,428	3,001	2,409
To Scotland	228	485	820
To Denmark	659	366	37
To Newfoundland	108	106	108
To Miquelon . . . . .	....	....	528
Total	26,921	\$11,048	\$11,535

A PRACTICAL RUBBER PLANTER.

Now that there is such a general and widespread interest in rubber planting, it may be of interest to present a sketch of the pioneer plantation superintendent, or perhaps more accurately, general manager, in the field in which American investors in this line are most directly interested. Rubber planting on a large scale is of course a comparatively new business, as indeed are most forms of tropical agriculture on this hemisphere.

The subject of this sketch was born and brought up in Brooklyn, New York, some thirty-five years ago. He was the grandson of a prominent Cuban, who, during the ten years' war, was obliged to leave Cuba, as his intimacy with Gomez led

the Spanish government to put a price upon his head. Some fourteen years ago Mr. Torres went to Central America, and for four years traveled through various parts of the republic, acting as an interpreter, and also as pioneer in various business undertakings. At the age of 16 he had been a court interpreter, in Spanish, in a Colorado court, at \$25 a day, having obtained the position by means of



FRANK L. TORRES,

General Manager "Ubero" and "Isthmus" Rubber Plantations.

a competitive examination. Ten years ago he settled down to the profession of tropical agriculture, first at Coapiloloyo and later at Dos Rios. At the latter place he became connected with the Dos Rios plantations, which are the second largest in the world, and personally had to do with the planting of all their coffee and also did a great deal in sugar cane. This experience brought him in very close touch with the laborers in that country, and he developed a remarkable faculty for handling them, and so much do the natives think of him that he is godfather for hundreds of native children born on his and adjoining plantations. He is also *Regidor del Distrito*, (chief magistrate) of his district, under the Mexican government.

By the way, to go back a little to his first trip to Mexico, it is interesting to note that one of his four companions who went with him was Fred. Funston, who recently has become famous through his capture of the elusive Aguinaldo in the Philippines. During the past ten years, Mr. Torres has not only successfully operated the plantations mentioned, but has been placed in charge of the Ubero plantations, and has planted coffee there so largely that within a year this plantation will be the largest in the world.

In order to give himself the best knowledge of rubber planting, Mr. Torres has also traveled everywhere through Mexico and South America, meeting with the rubber gatherers who bleed the wild trees, and also visiting the large and small plantations of both natives and foreigners, the result being that he probably has as wide and practical an experience in

rubber planting as any other person. Coincident with these trips has been the installing of coffee plants and rubber trees, until now the companies with which he is connected have the largest nurseries in existence.

Mr. Torres, speaking from his own personal experience, is emphatic in affirming that there is no trouble in getting labor, and of the best kind, and during the last month more than a hundred men have applied to his company for work, for whom they had no need. One reason that Mr. Torres gives for this experience is the fact that their plantations are right on the line of the railway, which is an advantage, as the natives are loath to go to plantations that are distant from it.

Mr. Torres, who by the way, married Miss Grace Nebeker, of Indianapolis, daughter of a former treasurer of the United States, makes his home in the city of Mexico, which is within a convenient distance from the "Isthmus" and "Ubero" plantations.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED MARCH 5, 1901.

- N O. 669,097. Bicycle tire. John A. Orr, Florenville, Louisiana.
669,098. Inhaler. Timothy T. Overshiner, Marion, Indiana.
669,343. Bathing cap. Irwin F. Kepler, Akron, Ohio, assignor to The B. F. Goodrich Co.
669,395. Rubber tire. Orville L. Leach, Providence, Rhode Island.

ISSUED MARCH 12, 1901.

- 669,583. Breast pump. Joseph H. Hoover, Waterloo, Iowa.
669,606. Pneumatic tire. Bacon Wakeman, Fairfield, Connecticut.
669,685. Rocker cushion. Leonard S. Dora, Baltimore, Maryland.
669,692. Vehicle Tire. Morton Harloe, Hawley, Pennsylvania, assignor of one-half to Wilton S. Bloes, Peckville, Pennsylvania.
669,739. Tire. James C. Anderson, Highland Park, Illinois.

ISSUED MARCH 19, 1901.

- 670,116. Grinding mill. Thomas L. Sturtevant, Quincy, and Thomas J. Sturtevant, Newton Center, Massachusetts.
670,209. Soft tread horseshoe. Herve Dyas de Saint Cyr, Montreal, Canada.
670,412. Pneumatic tire. Pardon W. Tillinghast, Edgewood, Rhode Island.
670,413. Fabric for tires. *Same*.

ISSUED MARCH 26, 1901.

- 670,543. Vehicle tire. Jacob Pfeiffer, Akron, Ohio.
670,604. Dental plate. Arnold Biber, Pforzheim, Germany.
670 866. Pneumatic tire. Pardon W. Tillinghast, Edgewood, Rhode Island.

DESIGN PATENTS.

- 34,202. Atomizer or inhaler. Charles M. Blackman, New York city, assignor to the S. H. Wetmore Co., same place, March 12, 1901.
34,294. Sole for boots and shoes. Frederick L. Varney, Lynn, Massachusetts. March 26, 1901.

TRADE MARKS.

- 35,991. Portable body supporting cushions. Meinecke & Co., New York city. March 5, 1901.
35,995. "Buckskin." Certain named rubber footwear and rubber coats. Monarch Rubber Co., St. Louis. March 5, 1901.
35,999 "Germane." Rubber belting, packing, gaskets, and hose. Peerless Rubber Manufacturing Co., New York city. March 5, 1901.

ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

4009. George Francis Rooney, 322, High Holborn, London. Improvements in goloshes or overshoes. February 25.
4047. James Johnston, Manchester. Improvements in apparatus for self inflating tires. February 26.
4059. Robert Alexander, Jr., Glasgow. Improvements in the securing of the covers of pneumatic tires. February 26.
4167. Albert Sidney Crosby and Jeremiah George Billings, Birmingham. Improvements in pneumatic tires. February 26.

4186. William Davies, Manchester. Improvements in and methods of repairing punctures of the rubber air tube in pneumatic tires. February 27.
4238. Jean Paul Legrand, 322, High Holborn, London. Improved protective device for pneumatic tire covers. (Date applied for under Patents, etc., Act, 1883, sec. 103, September 3, 1900, being date of application in France.) February 27.
4240. Henry Grendon Tippet and Walter Wild, Liverpool. Improvements relating to rubber and composition tires for vehicles. February 27.
4288. Percy Mitchell, Sheffield. Puncture preventer for pneumatic tires. February 28.
4319. John Richards Rowland, Leyton, London. Improved method of preventing punctures in tires. February 28.
4360. Patrick Millar Matthew, Glasgow. Improvements in the manufacture of rubber goloshes, in apparatus for use in such manufacture. March 1.
4451. John Kiel Tullis, Jr., Glasgow. Improvements in belting. March 2.
4548. Morton Garloe, Scranton, Pa., U. S. A. Vehicle tires. (Date applied for under Patents, etc., Act, 1883, sec. 103, October 26, 1900, being date of application in United States.) March 4.
4563. John Hubbard, Seven Kings, Essex. Improvements in pneumatic tires. March 4.
4565. Robert Henry Neil, 11, Wansey street, Walworth road, London. Improved waterproofing solution. March 4.
4618. Henry Gorham Woodford, Southampton buildings, Chancery lane, London. Improvements relating to the fitting of joint rings or washers on bottle stoppers. March 5.
4619. Edwin Stuart Herbert, 24, Old Park avenue, Balham, London. Improvements in pneumatic tires. March 5.
4648. Edward James Craig Christie and Robert Anderson, Glasgow. Improvements in treating the milk of trees yielding Gutta, Balata, and Rubber. March 5.
4663. Frederick Carl v. d. Sahl, 70, Chancery lane, London. Improvements in pneumatic tires. March 5.
4732. George Stowe, Birmingham. Improvements relating to inner tubes of pneumatic tires. March 6.
4803. Oscar Francois Joseph Duwez, 4, South street, Finsbury, London. Devulcanization of India-rubber. March 6.
4944. Frederick Swarbrick, Halstead, Surrey. Pneumatic tube and valve leak detector. March 8.
4956. William Jennings, 45, Southampton buildings, Chancery lane, London. Improvements in fastenings for elastic tires. March 8.
5006. Harry Wilson, trading as the Cleveland Tyre and Rubber Co., Wolverhampton. Improvements in pneumatic tires. March 9.
5009. Henry Mostyn Darrach, Manchester. Improvements in garden hose reels. March 9.
5064. Pardon Wilbur Tillinghast and Adolph Thomas Vigneron, 45, Southampton buildings, Chancery lane, London. Improvements relating to pneumatic tires for vehicles. March 9.
5103. Violet Wood, Manchester. Improvements in pneumatic tires for cycle and other wheels. March 11.
5185. Harry Wilson, trading as the Cleveland Tyre and Rubber Co., Wolverhampton. Improved articles of manufacture—enemas, syringes, balls, and the like—and the method of and apparatus used in their production. March 12.
5301. Giovanni Ruini and Luigi Zucchini, Manchester. Improvements in pneumatic tires. March 13.
5340. Alfred Julius Boulton, 111, Hatton garden, London. Improvements in pneumatic tires. [Herbert Downing and Heinrich Johann Georg Voss, Denmark.] March 13.
5361. Joseph Baier and Emily Clark, 11, Southampton buildings, Chancery lane, London. Improvements in elastic tires. March 13.
5389. William Henry Moss, Birmingham. Fasteners studs or clips in and relating to pneumatic tire covers. March 14.
5446. John Grover Webb, 18, Buckingham street, Strand, London. Improvements relating to vehicle tires and to apparatus for applying the same. March 14.
5505. William Howard, 9, Warwick court, Gray's Inn, London. Improvements relating to pneumatic tires. March 15.
5574. George Spencer, 70, Deansgate, Manchester. Improvements in the manufacture of India-rubber tires. March 16.
5611. William Hall Jones and Benjamin Highfield Jones, Wolverhampton. Water bottle. March 18.
5664. Arthur Thomas Collier, 11, Southampton buildings, Chancery lane, London. Improvements in pneumatic tires for vehicles. March 18.
5723. Thomas Mitchell and Alexander Woodcock Mackenzie. Improved self-acting apparatus for inflating pneumatic tires or for compressing air for propelling motor cars. March 19.
5734. Arthur Fielding, Manchester. Improvements relating to the manufacture of viscose. March 19.
5739. Oswald Grange Moseley and Benjamin Blundstone, Manchester. Improvements relating to pneumatic tires. March 19.
5781. Rollin Simmons Woodruff, 45, Southampton buildings, Chancery lane, London. Rubber tire for vehicle wheels. (Applied for November 14, 1900, being date of application in the United States.) March 19.
5813. William Phillips Thompson, 322, High Holborn, London. Improvements in, and in the methods of securing pneumatic tire covers. (Jean Paul Le Grand, France.) March 19.
5861. Ernest Henry Atkinson, 25, Frobisher road, Hornsey, London. Improvements in elastic tires. March 20.
5893. John Vaughn-Sherrin, 77, Chancery lane, London. Improvements in elastic wheel tires for vehicles. March 20.
5904. Frederick William Lanchester, 18, Southampton buildings, Chancery lane, London. Improvements in pneumatic tires. March 20.
5911. Thomas Morton, Birmingham. Improvements in the construction of the inner tubes of tires. March 21.
5988. Isador Frankenburg, Limited, and Joseph Webb, Manchester. Improvements in waterproof and other garments. March 21.
6140. George Mitchell, 39, Victoria street, Westminster, London. Improvements in the obtaining of Gutta-percha. March 23.

PATENTS GRANTED.—APPLICATIONS OF 1899.

- 21,440. Repair outfit for pneumatic tire. Rowley, T., Manchester. October 27, 1900.
- 21,578. Rubber step. Charles, T., Rotherham and West Riding Carriage Works, Rotherham, Yorkshire. October 28, 1900.
- 21,609. Rubber insole. Tite, F., Northampton. October 30, 1900.
- 21,725. Pneumatic tire and method of attaching. Sangster, C. T. B., Bonrnbrook, near Birmingham. October 31, 1900.
- 21,803. Rubber soles. Lietzmann, O., Germany. October 31, 1900.
- 21,868. Covering for pneumatic tires. Wicks, J. T., Birmingham. November 1, 1900.
- 21,872. Respirators; inhalers. Abel, C. D., Birkbeck Bank chambers, Southampton buildings, London. [Sauerstoff Fabrik, Berlin, G. m. b. H., Berlin.] November 1, 1900.
- 21,954. Tool for attaching and detaching the outer covers of tires. Palmer, A. C., Euroa, Victoria. November 2, 1900.
- 21,998-21,999. Exercising apparatus. Sandow, E., Victoria Embankment, London. November 3, 1900.
- 23,038. † Rubber tips for the soles of boots and shoes. Haigh, H. B., Brooklyn, New York. November 3, 1900.
- 22,067. Steel and rubber tire. Michael, L. O., Cardiff. November 4, 1900.
- 22,102. Electric cables, insulated by a mixture of Gutta-percha, India-rubber and ozokerit. Buchanan, J. Y., Edinburgh, N. B. November 4, 1900.
- 22,158. † Method of attaching tire to rim. Schrader, G. H. F., No. 30 Rose street, New York. November 6, 1900.
- 22,273. Non-puncturable rubber tire. Gerson, J., Dielkirchen, Pfalz, Germany. November 7, 1900.
- 22,412. Rubber tire. Manners, C., Mansfield, Nottinghamshire. November 9, 1900.
- 22,711. Rubber tire and method of attaching same to rim. Lake, H. H., 45, Southampton buildings, London. [Richardson, F.; Batavia, New York.] November 14, 1900.
- 23,067. Pneumatic tires and method of attaching. Hall, R. A., Newcastle-on-Tyne. November 20, 1900.
- 23,070. Pneumatic tire. Riley, J., and Stewart, T. A., West Gorton, Manchester. November 20, 1900.
23105. Rubber tire and method of attaching to rim. Marks, G. C., 18, Southampton buildings, London. [Rubber Tire Wheel Co.; Springfield, Ohio, U. S. A.] November 20, 1900.
- 23,107. Metallic protector for pneumatic and other elastic tires. Thompson, W. P., Liverpool. [Legrand, J. P., 8, rue du Sentier, Paris.] November 20, 1900.
- 23,111. Pessaries. Edwards, E., Middlesex. [Hermann, G.; 71, Elsasserstrasse, Berlin, Germany. November 20, 1900.
- 23,331. Waterproof fabric for uppers and insoles of boots and shoes. Spiess, W., 3 a, Werderstrasse, Stuttgart, Germany. November 22, 1900.
- 23,587. Non-slipping rubber tire. Ducasble, A., 23, rue Dussourd, Asnieres (Seine), France. November 25, 1900.

THE NEW PRICES OF RUBBER FOOTWEAR.

THE United States Rubber Co. on April 1 announced a further discount from their gross lists of 5 per cent., as a result of which the different grades and brands will be billed, until further notice, with the following total discounts:

First quality brands (except Woonsocket and Meyer).....	35@10@5
Woonsocket and Meyer brands.....	35@10@5@5
Second quality brands (except Rhode I-land).....	35@10@10@5
Rhode Island brand.....	35@10@10@5@5
Colonial brand.....	50@10@5

It has been a long time since a single twelve months has witnessed so much fluctuation in rubber footwear prices. At the different discounts which have ruled within a year, a pair of short boots, listed at \$4.20, would have cost the retailer as follows:

April 1, 1900 (with extra discount for summer).....	\$2.99
November 1, 1900 (regular discount restored).....	3 15
January 3, 1901 (extra discount allowed again).....	2 99
February 1, 1901.....	2 46
April 1, 1901.....	2 33

In the early history of the trade, when list prices used to be changed, instead of discounts, lists were changed frequently in some years. Three new lists were issued in 1872, three in 1873, and four in 1874. Then the new method came in, and discounts at first were no more stable. In 1879 four different discounts were quoted between May 1 and November 1, ranging from 15 to 30 per cent. on lists. The situation is different at this time for the reason that prices are "guaranteed," meaning that if there is a reduction late in the season, early buyers get the benefit in the shape of a "rebate."

THE DIAGRAMS.

HEREWITH is attempted a graphic representation of the fluctuation of rubber footwear for ten years past. It is to be regretted that the engraver has succeeded so well in making the figures difficult to read. The range of net prices on men's sandals has been from 40 cents in 1892-93 to 68 cents in 1899-1900. On men's short boots the range has been from \$2.13 in 1892 to \$3.15 in 1900.

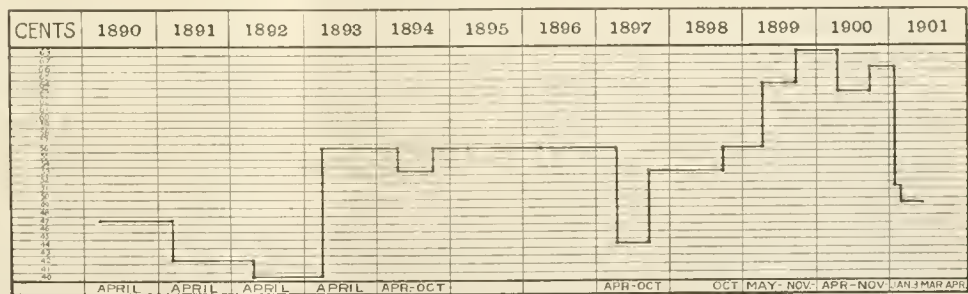
NEW RUBBER SHOE CATALOGUES.

THE new rubber boot and shoe catalogues for 1901 of the United States Rubber Co., mentioned briefly in our last issue, differ from their past issues in that the illustrated catalogue and price list are, in the case of each company, combined in

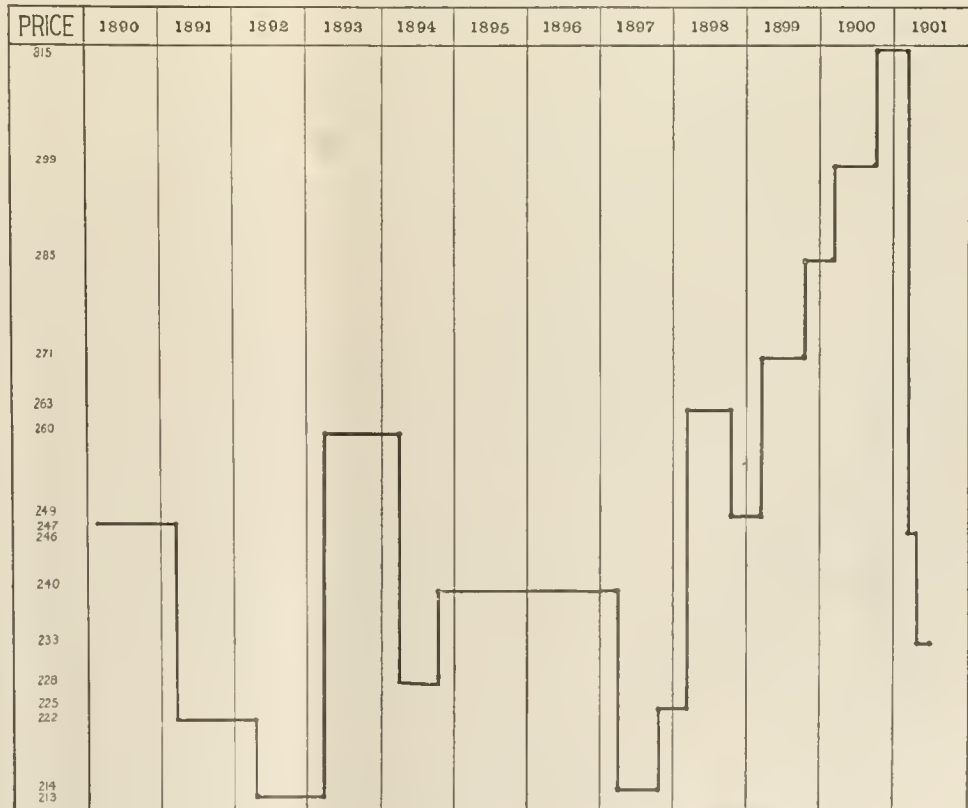
one publication. One must look elsewhere for discounts, however, and these are supplied in a folder giving the net prices of April 1, 1901. Everything has printed on it the caution "Subject to change without notice." These general catalogues relate to the American, Candee, Lycoming, Wales-Goodyear, and Woonsocket brands; another is devoted to the Meyer and Jersey brands, and still another to the Jersey alone. Then there are separate price lists for the "Connecticut," "Rhode Island," and "Colonial" brands; one for tennis, yachting, and gymnasium shoes; there is a price list of leather soled rubber boots and the "Omaha" line in Woonsockets—dated February 1, 1901; and, finally, the "Unlisted List."

Generally speaking, the lines illustrated are the same as last year, and no change appears in list prices. A new item of

PRICE TO RETAILERS OF MEN'S SANDALS.



PRICE TO RETAILERS OF MEN'S SHORT BOOTS.



"school gaiters," a comfortable looking article with cashmerette tops, for women, misses, and children, appears in most of the catalogues, in two grades. The American catalogue introduces the new "Windsor" toe for women, not unlike which is the "Mannish" toe in the Wales-Goodyear catalogue. The Wales-Goodyear introduces also the new "fishermen's" rubber boot and some attractive novelties in arctics. "Pará" grade specialties in cartons are another new feature in the American catalogue.

FOREIGN CATALOGUES OF AMERICAN RUBBERS.

EKERT BROTHERS, of Hamburg, who for more than ten years past have made a specialty of selling American rubber boots and shoes in continental Europe send us, for the season 1901-02, two illustrated price lists of "Candee" goods, printed in German and French, respectively [each 3½"×6". 32 pages] which can hardly fail to make a favorable impression for the line described. These lists are interesting as showing the brands of "Candee" manufacture that are in demand abroad. In addition to the sizes given in American catalogues, the width and length of sole is expressed also in millimeters. Prices per pair of a few brands given in these catalogues are as follows, to which are added corresponding prices from the latest American catalogue:

	Marks.	Francs.	Dollars.
Men's bip boots	28.30	35.40	6.00
Women's pebble leg boots	10.90	13.60	*2.25
Men's Emperor gaiter.....	12.60	15.75	2.65
Men's one buckle arctic	7.40	9.25	1.75
Men's Beacon self acting.....	4.75	5.55	1.00
Men's Baron clog	4.40	5.50	*.88
Men's Candee self acting.....	4.10	5.15	.88
Women's Candee self acting.....	2.80	3.50	*.75
Children's Candee self acting.....	1.90	2.40	*.55

These gross prices will be found, measured by American gross lists, to average about 10 per cent. higher for the German and 11 per cent. higher for the French.

BOSTON RUBBER SHOE CO.'S CATALOGUE.

THIS is a combined illustrated catalogue and price list, embracing the same line of goods as last year, with the addition of the "Avon" toe in women's goods, which corresponds to the "mannish" shapes introduced this season in some of the other catalogues. The prices are, of course, in harmony with those of the other factories controlled by the United States Rubber Co. But whereas the other catalogues are dated simply "April 1, 1901," this states prices for the period "From April 1, 1901, to December 31, 1901."

RUBBER DIVIDEND PASSED.

THE directors of the United States Rubber Co., at a meeting on April 4, after a discussion of the general trade situation, decided to defer action on the preferred stock dividend. In explanation of their action the directors, at the conclusion of the meeting, put out the following statement:

The Directors of the United States Rubber Co. deem it inexpedient to make any dividend upon the preferred stock at this time. One mild Winter following another has had the effect of curtailing the consumption of rubber boots and shoes, and being determined to retain its trade, the Directors of the United States Rubber Company deem it advisable to reduce prices, and several reductions have so far been made. As rebates to jobbers are given when prices are reduced—notwithstanding the fact that the rebates were found to be less than anticipated—the earnings of the company do not warrant the payment of further dividends for the present.

The Directors regard the present policy of low prices as a wise pro-

[* Corresponding items do not appear in the American "Candee" catalogues, and other items of approximate quality have been selected instead.]

vision for the future of the company, and so far this policy has resulted in there being placed with the company unusually large orders for goods, thus enabling them to give steady employment to the large number of employes dependent upon the industry.

The first quarterly dividend for the fiscal year beginning April 1, 1900, was 2 per cent., paid October 31. The second was for 1 per cent., paid January 31, 1901. Last year the third and fourth quarterly dividends were paid April 30 and July 31 respectively.

ANNUAL MEETING.

THE annual meeting of the stockholders of the United States Rubber Co., for the election of directors and for the transaction of any other business which may properly be brought before the meeting, will be held at the office of the company, in New Brunswick, New Jersey, on Tuesday, May 21, at 12 o'clock noon. Transfer books will be closed during April 16 and May 21, inclusive. For some time past rumor has been busy with gossip relating to prospective changes in the management of the company, the retirement of at least two prominent officials being referred to. The name of Colonel Samuel P. Colt has been much discussed in connection with the presidency, while Boston financial news has been filled with mentions of Lester Leland for treasurer. There have also appeared denials of the latter report, both from Treasurer Flint's friends and from Boston Rubber Shoe Co. interests.

RUBBER PLANTING IN MEXICO.

THE superintendent of the Commonwealth Mexican Plantation Association—Mr. N. B. McCurdy—recently visited the head offices of that company in Chicago, where he was interviewed by a correspondent of THE INDIA RUBBER WORLD. They are developing the "Plantation El Ingenio," in the state of Vera Cruz, Mexico, where Mr. McCurdy said that 300,000 rubber trees would be planted by the end of the present season. They are planting 300 trees to the acre, with a view to thinning out to 200 of the more vigorous when they have begun to grow well. Mr. McCurdy mentioned some thrifty plantations of from one to three years' standing, planted by American companies in the same state, and he could wish for no better success than the latter have experienced thus far. Mr. McCurdy had seen results from the tapping of native trees which were most encouraging with respect to the productive capacity of the rubber tree of Mexico. The plantation of his company is located in a thickly settled territory, and it has not been difficult to secure labor. There are 150 natives working on the "Plantation El Ingenio," all of whom were employed without the expenditure of one cent in seeking laborers. This company is planting other crops, as a source of revenue while the rubber plantation is being developed, and one dividend has already been declared out of the profits of the business.

FREDERICK W. BARKER, a member of the New York, delivered a lecture on "Automobile Tires" before the Automobile Club of New York on the evening of April 23, which proved to be a comprehensive summary of the various types of tires which have been offered thus far for automobile use. While giving the palm to the pneumatic tire as being most conducive to the rider, he pointed out its lack of untrustworthiness under heavy loads, and the necessity, in such cases, of using solid tires, if rubber is used at all. He considered cushion tires as a "hybrid," without any of the merits of the other two classes.

THE rubber shoe factories are busy on an unprecedented run of early orders, due to the low prices.

RUBBER TRADE NOTES FROM CHICAGO.

BY OUR REGULAR CORRESPONDENT.

SINCE the first report, early in the year, of the incorporation of the Western Rubber Shoe Co., to engage in the manufacture of rubber footwear, nothing has been made public regarding the company or its plans. In response to inquiries made of Milton J. Foreman, who is counsel for the new company, and who is also a Chicago alderman, he states for THE INDIA RUBBER WORLD that the company's authorized capital of \$1,000,000 has been paid in, and that a building has been secured for factory use. Mr. Foreman says, however, that they do not propose to begin operations until the present price war is stopped, and the rubber shoe industry can again be conducted on a profitable basis.

Beyond doubt the volume of trade in rubbers has been increased, as compared with past seasons, by the latest cut in prices, but with the United States Rubber Co. passing dividends, with one independent manufacturer making the 18 per cent. discount date back to January 1, which the "trust" refused to do, and with the jobbers of another manufacturer offering an extra discount of 5 per cent., it would seem that the decision of the projected Chicago rubber shoe company to postpone entering the trade is justified.

It is quite apparent that the use of heavy soled women's shoes has caused a smaller demand for rubbers in Chicago.

Trade in rubber clothing in the territory of which Chicago is the jobbing center has been certainly far from satisfactory during the past season. It has been little better with rubber footwear. It has been a case of "trade waiting on the weather," without the weather clerk being responsive to the wishes of the jobbers.

In druggists' sundries and specialties trade is fair, and Messrs. Lord, Owen & Co., wholesale druggists, and Messrs. A. M. Foster & Co., bottle manufacturers (and who also are interested in and take an important part of the output of the Hardman Rubber Co.) who are both rapidly attaining a very commanding position in their respective fields, report a considerable distribution of rubber specialties.

In mechanical rubber lines, business is reported as fairly good. The great farm machinery and implement manufacturers are busy preparing for a large summer and fall business, which means a heavy consumption of belting and suction hose as well as other goods in rubber. The garden hose season for the retailer is now on, and manufacturers and jobbers are praying for a dry and hot spring and early summer. No wonder the weather clerk becomes perplexed, when such varied wants in the weather line are expressed by the rubber men.

On account of the backward spring the retailers are not yet selling garden hose.

The Manhattan Rubber Manufacturing Co. seem to be comfortably fixed in their new quarters, at No. 105 Lake street, and report already a good business, which is bound to increase, if an able corps of representatives means or counts for anything.

The Boston Woven Hose and Rubber Co., in their new quarters, seem likely to be brought more prominently before the buying trade than while in their former rather out-of-the-way location. These people have reorganized their force here, and evidently mean to get an even larger share of the trade of this great manufacturing and distributing center, or know the reason why.

Of some interest to the mechanical rubber people is the recent introduction here of an English invention—flexible copper and galvanized iron tubing for steam, oil, air, water and suction hose. It is very expensive, but is guaranteed for long service,

and it is claimed has been thoroughly proven by some years service in England. What effect it will have on the use of high grade steam and air hose remains to be seen.

The Home Rubber Co. (Trenton, N. J.) have decided to open an office in Denver, Colorado. Jay W. Lyon, one of their Chicago salesmen, has been promoted to this position. Mr. Lyon is a good salesman and doubtless will secure for his company a good share of the mining trade.

HOOD RUBBER CO.'S JOBBERS.

At a meeting held at the Grand Pacific Hotel, in Chicago, March 6, of the jobbers handling the footwear made by this company, an organization was formed under the name of the Western Association of Hood Rubber Co.'s Jobbers. Mr. Olmstead, of Bentley & Olmstead (Des Moines, Iowa) was elected president, and Edgar Watson, of Roberts, Johnson & Rand Shoe Co. (St. Louis), secretary and treasurer.

SOME WANTS OF THE TRADE.

[165] "KINDLY inform us the name of the manufacturer of a rubber for covering the mouth piece of a horse bit. It is a coil of rubber about 5 inches wide, which unrolls so as to cover the bit, and then springs back in the original form. There is stamped on the end of the roll 'J. Stanley Bit Attachment, Patent, 1895.'"

[166] "We wish the names of one or more rubber manufacturing concerns that make syringes, pessaries, and the like."

[167] "Please give us the names of manufacturers of rubber balls and toys."

[168] "We should like to have you advise us of parties who manufacture black lead. We do not find any one advertising that article in THE INDIA RUBBER WORLD."

THE Memphis *Evening Scimitar*, of April 20, contains a page of well executed portraits of the finance committee who raised \$85,000 for the entertainment of the Confederate Veterans at their reunion of May 28-30, an event in which the citizens of Memphis are taking a very lively interest. Among the portraits are those of Mr. Henry N. Towner, and his son, Mr. Paul Towner, both of the important rubber house of Towner & Co. The same paper mentions Mr. Towner, senior, as a member of the Business Men's Club committee to welcome President McKinley and party to Memphis.

THERE are likely to be some interesting exhibits of crude rubber at the Pan American Exposition at Buffalo, which opens this month. Most of the South American republics are to be represented by displays of natural products, of which India-rubber is one of the most important. Rubber is mentioned particularly in the display which is to be made by Bolivia, in which country are the richest rubber forests in the world.

THE exposition of fire apparatus at Berlin, under governmental auspices, of which mention has been made already in this journal, will open about May 15 and continue until the end of August. Consul General Mason, at Berlin, reports to Washington that the United States seem likely to be very poorly represented.

THE Booth Steamship Co., Limited, has been registered in England, to amalgamate the business of the Booth Steamship Co., Limited, and the Red Cross Line, engaged in the Amazon river trade with New York and European ports. One result will be largely to consolidate under one control the rubber carrying trade from Pará, Manáos, and Iquitos.

NEWS OF THE AMERICAN RUBBER TRADE.

GLENDALE ELASTIC FABRICS CO.

AT the annual meeting, at Easthampton, Massachusetts, on March 29, the election resulted as follows: Treasurer, Joseph W. Green, Jr. Directors: William G. Bassett, John Mayher, William Rapp, S. T. Seelye, George A. Alden, Harry E. Converse, J. W. Green, Jr. The directors then chose W. G. Bassett president. A quarterly dividend of 2 per cent. was declared.

THE GOODYEAR VULCANITE CO. MAKE A CHANGE.

A CIRCULAR issued April 1 announces the transfer of the business and good will of this company to The Vulcanized Rubber Co., a New Jersey corporation, the formation of which was mentioned in the last INDIA RUBBER WORLD. The officers of the new company are: Myer Dittenhoefer, president; George Pellingier, vice president; Theodore E. Studley, treasurer and secretary. All orders for goods, however, will be filled by The Vulcanized Rubber Co. of New York, recently incorporated at Albany, with the same officers as above, and with headquarters at No. 568 Broadway, New York.

MAHONING RUBBER MANUFACTURING CO.

THE plant of this new company, at Youngstown, Ohio, will be located on land donated by Robert McCurdy, president of the First National Bank of Youngstown, in a portion of the city to which, by reason of the new enterprise, the electric railway will at once be extended. John Tod, who had been elected secretary and treasurer of the rubber company, in consequence resigned March 31 as executive head of the Falcon Bronze Co., of Youngstown. The rubber company will maintain offices in the Park building until an office structure can be erected on the factory site.

The new company are making rapid progress in the way of getting ready for business. In the line of the most up-to-date and effective plant, they have already placed their orders for the very best of machinery, and in the line of management have greatly increased their strength by securing Mr. J. Edwin Davies, formerly of The Boston Woven Hose and Rubber Co. Mr. Davis has severed his connection with the latter company, and early in May will move to Youngstown, which is to be his future home. It is gossiped that he takes quite a block of stock in the new corporation.

NEW ENGLAND RUBBER CLUB.

THE annual meeting and dinner will be held at the Exchange Club, No. 118 Milk street, Boston, on the evening of Friday, May 3, at 6 o'clock. Immediately following the adjournment of the business meeting, dinner will be served. Among the speakers announced are Colonel Curtis Guild, Jr.—"The Future of the Industrial Development in the United States"; Lafayette G. Blair, Esq.—"Lawyers Fifty Years Hence"; Professor Stephen P. Sharples—"The Chemist's Opportunity in the Rubber Industry"; Dr. Joseph Stedman—"India-rubber from the Physician's Standpoint"; T. E. Stutson—"American Humor of the Present Century." The invitations sent out are headed "Twentieth Century Dinner."

RUBBER MANUFACTURERS' MUTUAL INSURANCE CO.

BENJAMIN TAFT, son of the late Benjamin F. Taft, and Mrs. Carrie W. Fletcher, his daughter, both of whom long have been identified with their father's interests in the above and other insurance companies will, it is reported, continue to care for them.

A RUBBER STORE HANDLES FILTERS.

LATTA & MULCONROY CO., INC., rubber goods jobbers of Philadelphia, under an arrangement dating from April 1, handle the entire output of the Roberts Manufacturing Co., of the same city—the Roberts natural stone germ proof filter. Five years ago Charles V. Roberts was making 5000 filters a year for John Wanamaker, the Shannon hardware store, and a few other dealers in Philadelphia. Two years ago Mr. Roberts and James J. Mulconroy incorporated the Roberts Manufacturing Co., with increased facilities, since which 100,000 filters have been sold. Each filter requires rubber rings, washers, springs, etc., and the renewals have developed into a desirable business for the dealer handling the Roberts filter. Latta & Mulconroy Co. have enlarged their office and increased their force, and with this organization an increase of business of the Roberts company seems very promising.

CHANGES AT TRENTON.

G. L. WALLINGTON, secretary of the Crescent Belting and Packing Co., has resigned his position and gone into the drug business in Trenton, N. J., with his brother. His place in the Crescent company is filled by Mr. Samuel Cadwallader, who for many years was manager of the works of the Globe Rubber Co., when they were owned by the late Samuel K. Wilson. Edward Openshaw, a well-known and successful rubber man of Trenton, has accepted the position of superintendent for the Crescent company.

NEW BRUNSWICK TIRE CO.

OUR latest advices were that no one had been appointed to take the place of the late president of the company, James P. Langdon, who died in February. William A. Towner, vice president, has been acting as president. The company have issued no catalogue this season, as the Hartford Rubber Works Co. are marketing their pneumatic bicycle tires.

CONSOLIDATED RUBBER TIRE CO.

THE reorganization of this company, for which several special meetings have been called, only to be adjourned without any action being taken, is still pending. Last month was mentioned [page 213] such a meeting, called for April 12. On that date a further adjournment was announced, to May 6, the date of the annual meeting.

RUBBER GOODS MANUFACTURING CO.

TRADING in the shares of this company was a conspicuous feature of the New York curb market on April 10, recovering sharply from its break of the previous day. Sales were made from 25 $\frac{3}{8}$ to 27, and at the close 27 was bid. About 2500 shares were dealt in, the largest day's business in a long time. The preferred was also active and strong, about 1000 shares selling from 77 to 77 $\frac{1}{2}$, closing at the best.

EXCELSIOR MACHINE CO. (AKRON, OHIO.)

A NOTICE dated April 11, 1901, reads: "Notice is hereby given that the firm known as Excelsior Machine Co., composed of R. H. Probert and Edw. Nall, is this day dissolved by mutual consent. All debts due to said firm and those due by it will be settled with R. H. Probert, who will continue the business under the same firm name and at the same address." Mr. Probert is preparing to extend the business by putting in additional facilities for making all kinds of small special rubber molds—in which line the firm have for some time past enjoyed a good trade.

THE JOSEPH STOKES CO. TO MAKE RUBBER SHOES.

AN item of considerable interest in the rubber trade at present is the announcement that the Joseph Stokes Rubber Co. (Trenton, N. J.) will turn their plant into an up-to-date factory for the manufacture of rubber boots and shoes. The factory, of course, will be reëquipped, and the latest improved machinery installed. The main building is exceedingly well adapted for rubber shoe work, and the Stokes brothers are acknowledged to be capable manufacturers. The proposed plant will have a capacity of about 5000 pairs a day, the goods being high grade. It is reported that overtures have already been made by large handlers of rubber footwear, which practically assures a market for the goods.

— APSLEY RUBBER CO. (HUDSON, MASS.)

THE main mackintosh building of this company is to be turned over to the boot and shoe department. The two buildings are now being connected with a bridge, and other additions to the boot and shoe department will be made. This does not mean, by the way, that the firm are going out of the mackintosh trade. President L. D. Apsley, in an interview in the Hudson *Enterprise* stated:

"The mackintosh business is going through another change and I believe that there will be a revival in this business or that there will be some change which will lead to a better condition, as the public is surely going to demand for both men and women some kind of garments which will protect them in bad weather. We shall keep prepared to meet this demand when it comes. A demand has already come for a new line of rubberized cloths, which we have met, and as a matter of fact we have coated more yards of cloth during the past year than we have ever coated before."

The Apsley company are mentioned as having booked an order for rubber boots and arctics, from M. D. Wells & Co., Chicago jobbers, amounting to over \$300,000. Parker, Holmes & Co (Boston) have placed larger orders with the company than last year. Paul Brothers, shoe jobbers, of No. 333 Market street, Philadelphia, have arranged to handle the Apsley footwear in Pennsylvania. The company have also good orders from the Pacific Coast Rubber Co. (San Francisco.)— The Apsley catalogue and price list of rubber boots and shoes, April 1, 1901, is handsomely gotten up and illustrates a very full line of goods, the prices on which and discounts correspond with those of the other leading manufacturers. [3¼" x 6". 56 pages.]

BELATED RUBBER SHOE WEATHER.

A HEAVY fall of snow occurred in the middle and central western states on April 20, which in some cases exceeded all recent records, and particularly for so late in the season. There was 6 inches at Buffalo, N. Y., 6 to 12 inches at Lockport, Jamestown, and neighboring towns, and 15 inches at Dunkirk, N. Y.; 12 inches at Erie, Pa., 18 inches at Corry, and as much as 36 inches at other Pennsylvania points; 36 inches at Canton and 12 at Chillicothe, Ohio; 14 inches in eastern Kentucky, and from 4 to 24 inches in eastern Tennessee. Chicago shared in the storm, telegraphic communication with New York being cut off, and railway traffic was suspended at many intermediate places.

CANADIAN RUBBER SHOE TRADE.

AT a meeting of rubber boot and shoe manufacturers at Toronto it was decided to make a revision of their lists, to take effect on April 15. One reason, according to the *Canadian Shoe and Leather Journal*, was "the necessity for more parity with the American list, on account of the present rubber war on the other side of the line. It was felt that in boots and lum-

bermen's goods the home product was already considerably below the American list. A substantial reduction was made in first quality carton goods, which come more into competition with American fine rubbers, and also in second quality arctics, excluders, and light goods. The feeling prevails that the market here will not be influenced much by present conditions in the United States."

A REPORTED NEW INSULATED WIRE FACTORY.

THE newspapers reported early in the month that a gigantic new insulated wire plant was to be established at Newark, New Jersey, in affiliation with the United States Steel Corporation, involving a capitalization of \$10,000,000. An official of the American Steel and Wire Co. writes to THE INDIA RUBBER WORLD: "I have no authority for contradicting such a report, but I am very confident that there is no foundation for it. If anything of the kind was projected, I believe that our company would know something of it." Members of the insulated wire trade who have been interviewed express the opinion that the report is without foundation.

THE GOSHEN RUBBER CO. REORGANIZED.

THE machinery belonging to the Goshen Rubber Co. (Goshen, Indiana) has been purchased by the original stockholders in the enterprise, who have arranged with the Commercial Exchange, the owners of the building, for running the factory, beginning May 1. A new corporation has been formed—the Goshen Rubber Works—under Indiana laws, with \$30,000 capital, the directors being: William M. Page, N. R. Brackin, H. C. Zeigler, Alexander McDonell, Collins W. Kinnan, B. Johnson, Jerry Hayes, and Henry A. Middleton. The position of general manager will be filled by Mr. Middleton, whose experience in mechanical rubber goods justifies a prediction of success for the new company.

JOSEPH DIXON CRUCIBLE CO.

THE annual meeting of the stockholders was held at the company's main office, Jersey City, N. J., April 15, and out of a possible vote of 7345 shares there were 7285 shares voted for the reelection of the old board, consisting of Edward F. C. Young, John A. Walker, Daniel T. Hoag, Richard Butler, William Murray, Edward L. Young, and Joseph D. Bedle. President, E. F. C. Young; vice president and treasurer, John A. Walker; secretary, George E. Long, were reelected by the directors. Judge Joseph D. Bedle was also reelected as counsel.

B. F. STURTEVANT CO.'S FIRE.

THE fire which visited the works of the B. F. Sturtevant Co. at Jamaica Plain, Mass., on Sunday, April 14, proved far less disastrous than was first reported. Only the engine and electrical departments were injured. The power plant was started up with but a single day's delay, incident to renewing belts damaged by fire, and the entire blower, heater, forge, galvanized iron, and shipping departments, with the foundry, pattern shop, etc., were in full operation on that day and the shipments going forward as usual. No valuable office records were lost, the most serious damage occurring in the advertising department, where a large amount of printed matter was destroyed. Fortunately, however, an entirely new general catalogue was in press at the time, and copies were issued on April 16 in time to meet all demands for information. New offices were established on Monday morning in a nearby building and on Monday noon the business was running as usual. With these facilities at its disposal there is no likelihood of any delay in shipments except such as may occur in the electrical and engine departments, and arrangements are already made for handling this work.

A GOOD WATER BOTTLE TRADE.

THE manner in which C. J. Bailey & Co. (Boston) are marketing the "Good Samaritan" water bottle is commending itself to the whole trade. In the first place, they license any reputable manufacturers of druggists' sundries to make that type of bottle for their customers, and among those who are now licensed and are ready to supply their own trade are The Davol Rubber Co., The Tyer Rubber Co., The B. F. Goodrich Co., The Hardman Rubber Co., The Ideal Rubber Co., The Seamless Rubber Co. and The Hodgman Rubber Co. The arrangement with the manufacturers is that the jobber receives the goods at a certain price, signing a jobber's agreement that there shall be no cut in price. In this jobber's agreement is the list price and retail price. The arrangement has effectively disposed of the provoking question of price cutting so far as these goods go, and not only has it in no way injured the sale, but it has in reality been very helpful, and the goods are already finding a large market.

THIS WINDOW DISPLAY PUZZLED THE PUBLIC.

OLIVER R. HOWE, a rubber goods dealer at Lynn, Massachusetts, recently made up a window display of thirty different articles in rubber selected from his stock, with an offer of prizes for the first, second, and third correct lists of the same that might be sent in. The local newspapers called attention to the display, and there was much guessing on the part of the public for two weeks, and yet Mr. Howe informs THE INDIA RUBBER WORLD that not one of the lists sent in was complete. The articles displayed were:

- | | | |
|--------------------------------------|----------------------------------|--------------------------|
| 1. Pure Gum Rubber Glove (Inflated). | 11. Surgeon's Bandage. | 21. Tobacco Pouch. |
| 2. Sponge Bag. | 12. Ice Cap - Metal Top. | 22. Tissue Finger Cots. |
| 3. Pocket Flask. | 13. Urinal. | 23. Foil Tips. |
| 4. Hand Brush. | 14. Soap Dish. | 24. Bag Syringe. |
| 5. Ice Bag. | 15. Sanitary Cover. | 25. Cigar Holders. |
| 6. Bailey's Glove Cleaner. | 16. Telephone Ear Cushion. | 26. Hard Rubber Thimble. |
| 7. Catheter. | 17. Hard Rubber Pocket Atomizer. | 27. Pillow Ventilators. |
| 8. Bailey's Complexion Brush. | 18. Drinking Cup. | 28. Force Cups. |
| 9. Beer Bottle Stoppers. | 19. Overflow Cover. | 29. Cupping Cup. |
| 10. Castor Cup. | 20. Tourist Chamber. | 30. Nasal Douche. |

CONANT RUBBER CO. (BOSTON.)

THE Conant company, long known as manufacturers of high grade mackintoshes, have added to their line two high grade specialties. The first of these are dress shields, of which they now manufacture a very complete line, ranging in price from \$6 to \$36 per gross. They have taken for trade marks for these goods the names "Royal," "Queen Quality," "Crown," "Snow Flake," "Conant-Diamond," "Conant Washable," and "Shirt-waist." Their other line of special manufacture is white nursery and hospital sheeting, on which they have already established a most satisfactory trade.

RUBBER SCRAP.

THERE has been noticeable a tendency toward slightly higher prices, which may be due less to a more active demand for scrap than to the strength of the holders of the greater part of the existing stocks. In other words, probably the weaker holders, or those who lacked the courage to hold out for a rising market, have disposed of their stocks, and hereafter sales will be made at prices fixed by sellers rather than by consumers. At the latest advices shoe scrap was being quoted at 7@7½ cents for carload lots. Spring collections have been rather late in beginning, but the prospect of arrivals in the market from this source does not seem to weaken the tendency of prices. It is doubtful whether the renewed activity of the rubber shoe factories has drawn materially upon the scrap

market as yet. Indeed, it is stated that a mill which is an important factor in supplying reclaimed rubber to the shoe industry is sufficiently stocked not to be obliged to buy scrap before August. It is quite probable that more active buying by the reclaimers at any time would lead to an advance in prices.

AN OLD HOUSE IN THE RUBBER SCRAP TRADE.

THE house of E. M. Moers' Sons, Nos. 5-7-9 James slip, New York, is one of the oldest in existence engaged in handling rubber scrap. Their business dates from 1854, being devoted originally—and still in large part—to buying and selling old metals. In the course of time they began to handle old rubber shoes, claiming to have been the first to buy such stock in the



west. In 1874 they bought old rubbers at ¼ cent a pound and sold them at ½ cent. To-day their dealings in rubber scrap of all kinds, domestic and foreign, are on an extensive scale. Messrs. Moers' Sons occupy the whole of a large five story building, conveniently located to transportation on the

East river. Throughout the building exists a thoroughness of system, the result of long experience, which permits of the most expeditious and economical handling of the enormous collection of waste products daily arriving, and for assorting them and converting them into merchantable commodities of a higher grade. Their rubber scrap department occupies a series of rooms entirely apart from the other lines handled, and alone constitutes an important business.

A TILLINGHAST DECISION AFFIRMED.

IN the suit of Booth *et al. versus* Dodge *et al.*, involving the transfer of the patents and business of the Tillinghast Tire Association to the Single Tube Automobile and Bicycle Tire Co., heretofore noticed in this journal, the judgment of the lower court, in favor of the company, and holding the transfer to be lawful and valid, has been unanimously affirmed by the appellate division of the supreme court of New York.

RUBBER TIRE NOTES.

THE India Rubber Co. (Akron, Ohio) are preparing the manufacture of some very heavy Wheeler endless tires for self-propelling fire apparatus, including a vehicle weighing in the neighborhood of eight tons.

=The Goodyear Tire and Rubber Co. (Akron, Ohio) are making endless solid tires for motors, in sizes from 30 × 3 inches to 40 × 3½ inches, including their patented "Wing" feature. One advantage claimed for the "endless" type of tire is that the vulcanization of the rubber to endless wires conserves all the strength of the solid rubber, without any of the weaknesses of tires having loose retaining bands or wires within them.

=The Goodyear Tire and Rubber Co.'s vehicle tires are sold in the city of Mexico by William A. Parker & Co., Mirador de la Alameda, No. 1, who have installed machinery for applying the tires.

=The Detroit Rubber Tire Co. (Detroit, Mich.), sole licensee for Michigan and Toledo, Ohio, for the Kelly-Springfield vehicle tires, inform THE INDIA RUBBER WORLD that they have established a branch at Sault Ste. Marie, with facilities for applying tires, for the better accommodation of their trade in upper Michigan, where the demand for tires has been growing very rapidly of later.

TO SELL CRUDE RUBBER IN AKRON.

THE growth in importance of Akron, Ohio, as a rubber consuming center, is illustrated by the fact this town has been selected as the location of the first agencies for the sale of crude rubber that have yet been established in the United States outside of seaboard cities. Mr. R. L. Shipman has been appointed resident agent at Akron of the New York Commercial Co. and George A. Alden & Co. Mr. Frank B. Rickaby has also located at Akron in a similar capacity for Reimers & Co., of New York. In both cases the policy has been observed of selecting a capable and energetic young man, who has had thorough training in the house which he is to represent.

RUBBER SHOE FACTORY NOTES.

THE Candee rubber factory (New Haven) started on full time April 8, advertising for 100 skilled shoemakers. For some time before the shutdown in March the factory had run but five hours a day; indeed, it had been running on short time for the most of two years.—The National India Rubber factory (Bristol, R. I.) started April 8, after a shutdown of two weeks, with a large list on boot work.—The Apsley Rubber Co. (Hudson, Mass.) resumed work in the boot and shoe department April 1.

NEW INCORPORATIONS.

THE Brooklyn Reclaiming Co., April 4, under New York laws, to make and deal in reclaimed or devulcanized rubber; capital, \$10,000. Directors: Amadée Spadone, New York; John Murphy, Brooklyn; Albert E. J. V. J. Theilgaard, Copenhagen, Denmark.

=The People's Hard Rubber Co. (Akron, Ohio), under Ohio laws; capital, \$200,000. Directors were chosen April 12, as follows: *I. C. Alden*, president of the Alden Rubber Co.; *C. E. Sheldon*, vice president and general manager of Whitman & Barnes Manufacturing Co.; *A. B. Rinehart*, president of Akron Belting Co. and former sales manager Whitman & Barnes Manufacturing Co.; *J. R. Nutt*, treasurer Central Savings Bank Co.; *George C. Kohler*, lawyer, and son in law of *I. C. Alden*. The officers are *I. C. Alden*, president; *A. B. Rinehart*, vice president; *J. R. Nutt*, treasurer; *G. C. Kohler*, general counsel. It was announced as early as April, 1899, that such a company would be formed, but no definite information was given out until the incorporation of the company during the past month. It is stated that sufficient skilled labor has been obtained, and that an effort will be made to begin work by August 1. It is reported that *J. C. Pierrez & Co.*, No. 107 Chambers street, New York, will be eastern selling agents.

=Diamond Belting and Packing Co. of New York, March 27, under New York laws; capital, \$10,000. Directors: *W. B. Miller*, Akron, Ohio; *Ernest L. Baldwin* and *J. W. Teller*, New York city.

=Kellogg Manufacturing Co. (Newark, N. J.), April 14, under New Jersey laws, to manufacture rubber goods; capital, \$25,000. Incorporators: *S. C. Kellogg*, *F. W. Lestrade*, *E. C. Lestrade*.

=The Haskell Golf Ball Co. (Akron, Ohio), April 1, under Ohio laws, to make golf balls; capital, \$10,000.

=Dearing-Scott Manufacturing Co. (Jackson, Michigan), March 24, under Michigan laws, to manufacture rubber heels and creepers; capital, \$10,000.

=The Graff Shoe Co. (Philadelphia), March 6, under Delaware laws, to manufacture shoes and to deal in the same and rubber goods; capital, \$60,000.

=Northwestern Rubber Co. (Chicago), March 23, under Illinois laws, to do a general jobbing trade in rubber and kindred goods; capital, \$20,000. Incorporators: *A. B. Clark*, *Ellsworth*

F. Morton, *William G. Anderson*. Mr. Clark hitherto has represented the Pennsylvania Rubber Co. (Erie, Pa.) in Chicago, and the new concern will be selling agents for that company. A meeting for organization was to be held on April 25.

TRADE NEWS NOTES.

THE Home Rubber Co. (Trenton, N. J.) plan shortly to install a 750 horse power engine, their present power plant being too small for the execution of their orders.

=*Joseph Cantor*, dealer in rubber manufacturers' supplies, and representative in the United States of *Typke & King* (London), has removed from No. 149 Church street to Nos. 56-58 Pine street, New York.

=The Crude Rubber Co. have removed their offices from No. 30 Broad street, New York, to the Broad-Exchange building, Nos. 25-29 Broad street.

=The Groton Rubber Co., organized recently to operate a factory at Poquonock, near New London, Connecticut, have decided not to carry out their plans, and the machinery which has been installed will go back to the manufacturers.

=The Byfield Rubber Co. (Bristol, Rhode Island) are replacing the four boilers in use hitherto in their factory with two larger ones. A new boiler house is being built, and the old boiler room will be used as a compound room. The company are reported to be well supplied with orders.

=The Mechanical Fabric Co. (Providence, R. I.) have recently taken a contract to equip throughout the two new steamers of the American Line, the *Zealand* and *Vaderland*, with air mattresses.

=*I. W. Greene*, son of *Frank W. Greene*, the rubber broker of New York, has become connected with the American Rubberine Co., and is offering their rubber substitute to the trade.

=The Manufacturers' Association of Kansas City, Missouri, has established a catalogue library, and requests all manufacturers and mercantile establishments to forward their catalogues, receipt of which will be duly acknowledged. Catalogues will be filed and indexed by the card index system both as to firm name and subject matter of the catalogue.

=The Milford Rubber Co. (Boston) have made several improvements lately at their factory at Milford, Massachusetts, including the installation of fire sprinklers, the building of a new water tank, and increasing facilities in the spreading room.

=The Harding Paper Stock Co. (Omaha, Nebraska) have been succeeded by *L. Harding*. The business dates from 1880, and includes the handling of rubber scrap on a considerable scale, this being the only house in the line in the state.

=The Eureka Fire Hose Co. (New York) have issued a hanger, fitted for posting in fire department and other hose houses, containing printed "Directions Concerning Care of Fire Hose," which should be considered by all users of such hose.

=It is reported that *John Kerns*, superintendent of the India Rubber Co. (Akron, Ohio), will sail this month to take charge of the tire and mechanical rubber factory which the Dunlop interests are erecting at Melbourne, Australia.

=The Syracuse Rubber Co. and *Pierce, Butler & Pierce* (Syracuse, New York) have each been awarded a contract for 1000 feet of hose for the local fire department.

=*G. Edwin Alden*, No. 176 Federal street, Boston, has taken the agency for the special substitutes, solvents, and ingredients prepared for rubber manufacturers by *William H. Scheel*, of New York.

=*H. S. Randall*, who, since 1873, has been in charge of the New York office of the Boston Rubber Shoe Co., resigned on April 1, and has been succeeded by *E. L. Phipps*, for some years past connected with the company's Boston office.

=It is interesting to note that the very highest grades of talc are now being mined in the United States, and specially prepared for the rubber trade. The writer recently saw some beautiful specimens of talc, and also a great variety of grades of barytes, at the office of the Carolina Mineral Co., No. 140 Maiden lane, New York. These goods all came from North Carolina, and are being prepared particularly for consumption in rubber working and compounding.

=George T. Case, formerly superintendent of the hard rubber department of The Seamless Rubber Co., has severed his connection there and accepted a position with the rubber factory of Morgan & Wright (Chicago).

=The employes of the Manhattan Rubber Manufacturing Co., at Passaic, New Jersey, have formed a benevolent association, incorporated under the laws of the state.

=George Watkinson & Co. (Philadelphia) have filed plans with the city authorities for an engine room and boiler house addition to their rubber shoe plant.

=The Lambertville (N. J.) Rubber Co. have recently built an addition, 18x40 feet, to their vulcanizing department.

=The "Transporteur Robins," for which Henry La Burthe is general agent in France (20, avenue Herbillon, Saint-Mandé), is the system manufactured by the Robins Conveying Belt Co. (New York).

PERSONAL MENTION.

MR. CHARLES R. FLINT, of New York, was the principal witness, on April 8, at Washington, before the Industrial Commission which, under an act of Congress, is conducting an investigation into the industrial conditions of the country. Mr. Flint was called on account of his prominence in connection with the consolidation of large industrial enterprises, and gave his views on the advantages of combination. Incidentally he gave many details regarding the organization and control of the United States Rubber Co., the Rubber Goods Manufacturing Co., and the American Chicle Co.

=Mr. E. E. Buckleton sails for Europe on the *Lucania*, May 4, for an extended tour covering England, France, Germany, Norway, and Sweden.

=Recent visitors to the United States have been Ernest Berlyn, of Paris, and John W. Knott, of London, representatives of the Boston Rubber Shoe Co. It was the first visit to this country of M. Berlyn.

=Mr. J. H. Stearns, of Parker, Stearns & Sutton (New York) will shortly leave for Lake Spofford (New Hampshire), where he owns a fine summer hotel known as the Pine Grove Springs Hotel. As a health resort of the highest type Mr. Stearns' place is rapidly becoming noted. Indeed it is confidently predicted that it will soon be a rival of Poland Springs.

=Mr. O. C. Barber, one of the prime factors in the Diamond Rubber Co. (Akron, Ohio), and president of the Diamond Match Co., is reported to be concerned with Mr. H. C. Frick, of Pittsburgh, in the establishment of the Columbia National Bank, at Barberton, Ohio.

=Mr. Albert T. Holt, superintendent of The Victor Rubber Co. (Springfield, Ohio), was married April 17 to Miss Mary L. Widdicombe. The newly married pair went East for an extended wedding tour.

=Mr. Joseph Everett Stone, cashier of the Hood Rubber Co., and Miss Sadie Boyle, of Swampscott, Massachusetts, were married April 10.

=In the death of Mr. Richard P. Rothwell, editor of the *Engineering and Mining Journal* (New York), on April 17, the scientific world and the cause of high class technical journalism suffer a distinct loss. He was born in Ontario in 1837 and studied and worked in many countries. It may not be known

generally that at one time he filled an important position in the cable works of W. T. Henley & Co., at North Woolwich, London, which entitles him to be considered to have had an experience in the rubber industry. Later he became a mining engineer of high distinction.

UNITED STATES RUBBER STOCKS.

THE following is a record of transactions on the New York Stock Exchange, for several weeks past:

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Feb. 2	6,100	20½	19	1,070	62	60
Week ending Feb. 9	4,875	21⅝	19¾	3,790	61	59¾
Week ending Feb. 16	3,010	21¼	20	2,510	61	60
Week ending Feb. 23	4,615	20	18⅝	950	60⅝	60
Week ending Mch. 2	11,000	22½	18¾	4,107	62¾	59¾
Week ending Mch. 9	3,865	19½	18¾	2,850	59½	58
Week ending Mch. 16	2,045	19¼	18½	1,065	58½	57½
Week ending Mch. 23	4,030	20¼	18⅞	2,223	59½	58
Week ending Mch. 30	23,045	23	19½	11,960	67½	58½
Week ending Apr. 6	10,420	21½	19½	7,850	60¼	55⅞
Week ending Apr. 13	10,940	23½	19	8,695	65	55
Week ending Apr. 20	3,092	21¾	20¼	925	61½	60¼

RANGE OF QUOTATIONS LAST YEAR.

Common—Highest, 44; Lowest, 21.

Preferred—Highest, 104¾; Lowest, 74½.

The Boston *Advertiser* reported, March 28, relative to the stock trading of the preceding day: "Towards the close a sharp upward movement took place in Rubber preferred, which lifted the stock seven points. This was attributed to reports that the directors, at to-day's meeting, will announce an advance in prices of rubber goods, to take effect April 1, and to semi-official statements that sales during the past quarter have been unusually heavy."—The New York *Times*, one day later, said: "So far as the movement in United States Rubber stocks was concerned, a movement quite contrary to the market—the common breaking 2 points and the preferred 3¼—the only explanation offered was that the rise upon the previous day had been brought about solely by manipulation, and that yesterday's declines resulted in selling by the manipulators in an endeavor to take profits."—Referring to the passing of the quarterly dividend, the *Times* said, on April 5: "This decision had generally been expected in the Street, but it was followed nevertheless, by a break in Rubber Trust preferred stock of 2⅞ points while the common declined 1¼."

U. S. RUBBER RECLAIMING WORKS.

MR. OTTO MEYER, who has long represented Livesey & Co. (Liverpool) in crude rubber, with headquarters at No. 90 South street, Boston, has made arrangements to add to his business by accepting the New England agency for the United States Rubber Reclaiming Works. The arrangement should prove a most profitable one, both for the able young representative and the successful and enterprising house whose goods he handles.

WOONSOCKET RUBBER CO.

AT the annual meeting held at Providence, Rhode Island, on the 22d of April, the following directors were elected: Colonel Samuel P. Colt of Providence, Frederick C. Sayles of Pawtucket, F. C. Sayles, Jr., of Providence, John W. Ellis of Woonsocket, and Walter A. Read of Providence. The directors organized by electing Colonel Samuel P. Colt president and general manager, Charles H. Guild of Providence secretary, and Frederick Cook treasurer. Colonel Ellis succeeds Henry R. Barker, deceased, of Providence, on the board of directors. He is the only Woonsocket man on the board.

REVIEW OF THE CRUDE RUBBER MARKET.

THE record of the month is one of constant rise in prices, coincident with increased buying on the part of manufacturers. Those manufacturers who had refrained from buying in the hope that the market would decline still further than the lowest level reached in March, thus allowing their stocks to become very much depleted, came into the market during April, both to cover pressing requirements and to protect themselves against a possible extreme advance. Some others, who were regarded as having liberal supplies, have been buyers, doubtless for the second reason mentioned. A few weeks ago rubber was quoted at Pará at prices above those rating at New York and in Europe, and the advance which has occurred in the consuming markets has been at a corresponding rate. In this connection reports are current of considerable short sales for future delivery, followed by failure to cover contracts. Prices of Centrals and Africans have shown an upward tendency, in sympathy with Pará sorts.

From Europe there are reports of a good demand, and a firm market at the higher prices. At the Antwerp sale on April 16 most of the rubber offered found buyers, at an average advance of about 6 1/8 cents per pound over valuations.

The arrivals at Pará throughout the crop year have been less than for the corresponding months of last year, though comparing favorably with the best years previous to that date. The figures following show the receipts from July 1 to April 30, respectively, except in respect to the present year, the record for which is brought down only to April 27 :

Tons.....	1900-01.	1899-1900.	1898-99.	1897-98.
	22,950	23,450	22,885	21,365

Our Pará correspondent writes: "Receipts here as well as at Manáos will decrease rapidly during the remainder of the crop season, and this, together with the improvement in the reports from the consuming centers, is a feature of considerable satisfaction to the receivers, who, however, are affected unfavorably by the high price of exchange."

Quotations in New York on April 29 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	.90 @91	Tongues.....	47 @48
Islands, fine, old....	.92 @93	Sierra Leone.....	.64 @65
Upriver, fine, new....	.92 @93	Benguella. . . . .	.59 @60
Upriver, fine, old....	.94 @95	Cameroon ball. . . . .	.48 @49
Islands, coarse, new....	.58 @59	Flake and lumps.....	.35 @36
Islands, coarse, old....	@	Accra flake.....	.18 @19
Upriver, coarse, new....	.65 @66	Accra buttons.....	.53 @54
Upriver, coarse, old....	.66 @67	Accra strips.....	@
Caucho (Peruvian) sheet	52 @53	Lagos buttons.....	.53 @54
Caucho (Peruvian) strip		Lagos strips.....	@
none imported now.		Liberian flake....	@
Caucho (Peruvian) ball	59 @60	Madagascar, pinky....	@
CENTRALS.		Madagascar, black....	@
Esmeralda, sausage....	.57 @58		
Guayaquil, strip.....	.54 @55		
Nicaragua, scrap....	.56 @57		
Mangabeira, sheet....	.44 @45		
EAST INDIAN.			
Assam.....	.75 @76		
Borneo.....	.36 @46		

Late Pará cables quote:

	Per Kilo		Per Kilo.
Islands, fine.	5\$450	Upriver, fine....	6\$350
Islands, coarse	2\$550	Upriver, coarse.....	4\$150

Exchange 13 1/8 d.

In relation to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York) advises us as follows:

"During April the money market has been most of the time rather firmer than in March, and ruling quotations have been 4 1/2 @ 5 per cent. for the best rubber names, and 5 1/2 @ 6 per cent. for others, with a fair demand, mostly from out-of-town banks."

Statistics of Para Rubber (Metric Tons.)

	NEW YORK.			PARÁ.			ENGLAND.		
	Fine and Medium.	Coarse.	Total 1901.	1901.	1899.	1901.	1900.	1899.	
Stocks, February 28.....	639	56 =	695	560	2225	1025	449	735	
Arrivals, March.....	1542	470 =	2012	3923	2450	1278	2156	915	
Aggregating.....	2181	526 =	2707	4483	4675	2203	2605	1650	
Deliveries, March.....	1363	415 =	1778	3998	3445	857	1250	750	
Stocks, March 31.....	818	111 =	929	485	1230	1346	1355	900	
World's supply, March 31 (excluding Caucho).			5168			5168	4853	3543	
Pará receipts, July 1 to March 31.....			20,494			20,494	21,880	21,365	
Afloat from Pará to United States, March 31.			1408			1408	429	283	
Afloat from Pará to Europe, March 31.....			1000			1000	1374	638	

NEW YORK PRICES FOR MARCH (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine... ..	83 @86	99 @1.05	1.02@1.07
Upriver, coarse.....	59 @60	75 @ 80	88 @ 90
Islands, fine.....	83 @84	98 @1.04	1.01@1.05
Islands, coarse.....	45 @50	59 @ 64	71 @ 75
Cameté, coarse.....	53 1/2 @54	62 1/2 @ 65	72 @ 77

Gold Coast Rubber Exports Smaller.

THESE figures have been compiled for THE INDIA RUBBER WORLD by the comptroller of customs at Accra—the name of which city, by the way, is applied as a trade name to much of the rubber covered by this report :

YEARS.	Pounds.	Value.
In 1894.	3,027,527	\$1,162,750
In 1895.....	4,022,385	1,610,350
In 1896.	3,735,439	1,569,085
In 1897.....	4,956,727	2,098,985
In 1898.....	5,984,984	2,758,337
In 1899.....	5,572,554	2,778,655
In 1900.....	3,452,440	1,640,780

The values here quoted, have been reported in English money, and converted at \$5 to £1. The authorities at Accra inform THE INDIA RUBBER WORLD that the falling off in production last year was due to the war between the British government and the natives.

Lagos exports have also fallen off, from 5,060,504 pounds in 1895, to 596,332 pounds in 1900.

Liverpool.

WILLIAM WRIGHT & Co. report [April 1]: "Fine Pará.— There has been an active demand both spot and forward at rather easier prices, but at the close there are increased signs of firmness. The position has been somewhat peculiar on the one hand; the heavy Pará receipts have all been bought up at prices considerably over those ruling here and in New York, while here prices have gradually declined. The chief buyers in Pará have been the Americans, and present appearances point to the possibility of their trying to control prices, in

view of the probability of a short crop next season, owing to financial difficulties in Brazil. It is hard to realize that they are buying hundreds of tons at prices pence per pound over what they can sell at, merely with the idea of 'doing business.' Sales on spot are 195 tons, closing prices Islands being 3s. 7½d; Upriver 3s. 7d. For delivery, 195 tons sold, chiefly April-May and May-June, closing with possible sellers of the former at 3s. 7d. and the latter at 3s. 7½d."

THE partnership firm of Huss, Macleod & Co., India-rubber merchants, 57, Tower buildings, Water street, was dissolved March 31. The old accounts will be settled by George Macleod. The business is to be continued, at the same location, by George Macleod and S. Yates Edwards, as partners, under the style Macleod, Edwards & Co.

London.

JACKSON & TILL, under date of April 1, report stocks:

	1901.	1900.	1899.
LONDON { Par� sorts..... tons —	—	—	1
{ Borneo.....	172	148	75
{ Assam and Rangoon.....	21	16	21
{ Other sorts.....	640	412	383
Total.....	845	576	480
LIVERPOOL { Par�.....	1346	1344	894
{ Other sorts.....	1343	1184	568
Total, United Kingdom.....	3522	3104	1942
Total, March 1.....	2989	1917	1784
Total, February 1.....	3189	1848	1905
Total, January 1.....	2901	1855	2109

PRICES PAID DURING FEBRUARY.

	1901.	1900.	1899.
Par� fine, hard.....	3/6½ @3/8½	4/5 @4/6½	4/1½ @4/2¾
Do soft.....	3/7¼ @3/8¼		
Negroheads, Islands ...	2/- @2/0¼	2/7 @2/7½	2/10½
Do scrappy.....	2/7 @2/9	3/5½ @3/5¼	3/7
Bolivian.....	3/8½	No sales.	4/3

PRICES PAID DURING MARCH.

	1901.	1900.	1899.
Par� fine, Islands... ..	3/6½ @3/7¼	4/2½ @4/5	4/3 @4/4½
Do Upriver.....	3/6 @3/6¾		
Negroheads, Islands....	1/11¼ @2/1	No sales.	2/11¼
Do scrappy.....	2/6 @2/6½	3/3	3/6¾ @3/7¾
Bolivian.....	No sales.	No sales.	4/4½ @4/5

Bordeaux.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The prices obtained for the African (Soudan or Sierra Leone) sorts have been good in spite of the genuine settling which is done at Liverpool. The fine Twists have been valued at 6.20 to 6.30 francs per kilogram and the Niggers, 5.27 to 5.30 per kilogram. The stock is fortunately reduced and by the last arrival by the *La Plata* all of the Sierra Leone and Gambia had been sold.

Arrivals from March 15 to April 15, and stocks on hand at the latter date, are as follows:

	Arrivals.	Stocks.
Cassamance.....kilos.	8,100	.....
Conakry.....	2,200	.....
Soudan.....	34,500	.....
Congo—Mayumba.....	4,500	4,500
Tonkin.....	2,000	2,000
Madagascar.....	.....	2,500
Java.....	.....	2,500
Total.....kilos.	51,300	11,500

P. CHAUMEL.

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The market for Par  sorts of late has been more firm, and prices advancing, thereby benefiting other sorts, and causing great activity in the latter. The tone of the market has been accen-

uated by reports of America becoming a strong buyer of Par  and other sorts, taking large quantities for spot and forward delivery. Fine Bolivian, spot delivery, sold at 8.15@35 marks per kilogram, and deliveries for May-June received ready offers of 8.30@8.40 marks. Transactions at like prices are reported in fine Par , hard cure. Bolivian medium, spot, brought 8 marks. Fine Mollendo has been much called for, and for the only offer—a small lot for April-May delivery—8.05 marks was paid. Fine Matto Grosso virgin sold at 7.25@7.30 marks and Matto Grosso negroheads at 5.50@5.60. Transactions in Africans have been brisk, about 120 tons being disposed of at the following:

PRICES IN MARKS PER KILOGRAM.

Mozambique ball, red and black, prime.....	7.35	Bassam lump, prime, dry... ..	3.60
Lom� niggers, red, prime... ..	6.50	" ball, white and red, prime.....	3.55
" good white... ..	4.40	Bassam flake, ordinary... ..	3.00
" coated white. 4 10		Congo thimbles, second, (in bags).....	3.35
Massai niggers, red, cut, prime.....	5.60	Ecuador scrap.....	5.70
Conakry niggers, red and white, prime.....	5.30	Salvador scrap.....	5.70
Conakry niggers, white, prime	5.00	Colombia scrap.....	5.65
Sierra Leone twist, prime, slightly damp.....	4.90	Guatemala slab.....	3.90
Madagascar, black, prime... ..	4.25	Borneo, white, prime and second.....	5.10
Batanga ball, prime... ..	4.20	Borneo, white third.....	3.25
Elobi, tongue and ball, prime	3.65	" dead.....	3.85

Market closes firm by rising prices.

Hamburg, April 9, 1901.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: On March 18 118 tons Lopori rubber were sold by private tender to arrive by steamer *Philippeville*, due March 20 from the Congo, at 7.47½ francs per kilogram. It appears that the lot was bought for the United States. This may be regarded as a full price, the lot having to be taken *telle quelle* (without regard to quality), whereas 7.50 francs was the price paid for an assorted lot of Lopori at the auction of March 12. The next sale is announced for April 16, to include 380 tons, mostly Congos. The Antwerp market has been quiet, at unchanged prices for prime quality. Owners are ready sellers for inferior grades.

C. SCHMID & CO.

Antwerp, March 30, 1901.

SOME prices obtained at the sale April 16 were: Upper Congo balls, ordinary, 7.20@7.25 francs; Lake Leopold, second quality, 6.20; Aruwimi, 6@6.80; red Kassai, 7.20@7.80; Lower Congo, red thimbles, 3.07½; Upper Congo—Yengu, 8.20; Soudan twists, 7.35; Conakry niggers, 6.55. No Loporis offered. Total offered, 381,285 kilograms; sold, 310,520 kilograms. Next sale, May 14. Steamer with 500 tons expected by the end of April.

ANTWERP RUBBER STATISTICS FOR MARCH.

[By the courtesy of EMILE GRISAR.]

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stocks, Feb. 28. Kilos	781,100	618,800	250,311	230,752	185,743
Arrivals, March....	570,052	416,278	250,081	166,910	108,515
Congo sorts.....	528,795	332,587	189,175	146,397	98,650
Other sorts.....	41,257	83,691	60,906	20,513	9,865
Aggregating....	1,351,152	1,035,078	500,392	397,662	294,258
Sales, March.....	507,318	300,018	246,823	219,098	175,247
Stocks, March 31... ..	843,834	735,060	253,569	178,564	119,011
Arrivals since Jan. 1	1,573,310	1,776,314	761,945	487,844	318,783
Congo sorts.....	1,403,293	1,475,996	647,233	434,355	299,128
Other sorts.....	170,017	300,318	114,712	53,489	19,655
Sales since Jan. 1 ..	1,343,515	1,333,245	771,716	403,743	339,401

ARRIVALS AT ANTWERP.

MARCH 22.—By the steamer *Philippeville*, from the Congo:

Table listing arrivals from Philippeville with columns for company name, quantity in kilos, and value.

APRIL 4.—By the steamer *Anversville*, from the Congo:

Table listing arrivals from Anversville with columns for company name, quantity in kilos, and value.

Rubber from Indo-China.

EXPORTS from this new source during the first nine months of 1900 amounted to 599,346 pounds, against 87,490 pounds for the same period of 1899.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

MARCH 29.—By the steamer *Dunstan*, from Manáos and Pará:

Table showing import weights for Dunstan with columns for company, fine, medium, coarse, caucho, and total.

Table listing various rubber companies and their respective quantities and values.

Total... 893,200 251,100 355,100 396,100=1,895,500

April 6.—By the steamer *Cearense*, from Manáos and Pará:

Table listing arrivals from Cearense with columns for company name, quantity, and value.

Total... 943,600 172,400 271,400 131,300=1,518,700

April 19.—By the steamer *Amazonense*, from Manáos and Pará:

Table listing arrivals from Amazonense with columns for company name, quantity, and value.

Total... 940,200 160,200 301,400 236,200=1,638,000

[NOTE.—The *Gregory* is due at New York with 122 tons from Pará; also the *Hildebrand* from Manáos and Pará with 560 tons. The *Polycarp*, with 350 tons, is due May 5.]

PARA RUBBER VIA EUROPE.

Table listing arrivals from Europe with columns for date, steamer name, company, and quantity in pounds.

OTHER IMPORTS AT NEW YORK.

Table listing other imports with columns for date, steamer name, company, and quantity in pounds.

CENTRALS—Continued.

Table listing central arrivals with columns for company name, quantity, and value.

CENTRALS—Continued.

Table listing central arrivals with columns for date, steamer name, company, and quantity in pounds.

CENTRALS—Continued.

Sussdorf, Zaldo & Co.	800	
New York Commercial Co.	600	10,900
APRIL 19.—By <i>El Monte</i> =New Orleans:		
A. T. Morse & Co.	13,000	
W. R. Grace & Co.	2,500	
A. N. Rotholz	1,000	
G. Amsinck & Co.	700	17,200
APRIL 22.—By the <i>Seguranca</i> =Mexico:		
Thebaud Brothers	1,500	
Graham, Hinkley & Co.	700	
Flut, Eddy & Co.	700	
H. Marquardt & Co.	500	3,400
APRIL 22.—By the <i>Umbria</i> =Liverpool:		
Reimers & Co.		11,500
APRIL 23.—By the <i>Alene</i> =Greytown:		
A. P. Strout	7,500	
G. Amsinck & Co.	2,500	
Monarch Rubber Co.	2,000	
A. D. Straus & Co.	1,000	
Jimenez & Escobar	1,300	
United Fruit Co.	1,500	
Kunhardt & Co.	800	
C. Wessels & Co.	300	
For Bremen	1,000	17,900
APRIL 23.—By <i>El Dorado</i> =New Orleans:		
L. N. Chemedlin & Co.	2,500	
W. R. Grace & Co.	1,800	
Eggers & Heinlein	1,000	
G. Amsinck & Co.	1,000	
R. G. Barthold	1,200	
Pomares & Cushinan	1,000	8,500

AFRICANS.

POUNDS.

MARCH 25.—By the <i>Etruria</i> =Liverpool:		
Robinson & Tallman		26,000
MARCH 27.—By the <i>Friesland</i> =Antwerp:		
George A. Alden & Co.	78,000	
Crude Rubber Co.	78,000	
Reimers & Co.	36,000	
A. T. Morse & Co.	20,000	
Otto G. Mayer & Co.	14,000	226,000
MARCH 28.—By the <i>Teutonic</i> =Liverpool:		
Otto G. Mayer & Co.	28,000	
Reimers & Co.	6,000	
Livesey & Co.	1,000	35,000
MARCH 28.—By the <i>Vaderland</i> =Antwerp:		
Otto G. Mayer & Co.		11,500
APRIL 1.—By the <i>Bulgaria</i> =Hamburg:		
A. T. Morse & Co.	20,000	
Reimers & Co.	17,000	
Livesey & Co.	2,000	39,000
APRIL 1.—By the <i>Peninsular</i> =Lisbon:		
A. T. Morse & Co.		56,000
APRIL 6.—By the <i>Pretoria</i> =Hamburg:		
Livesey & Co.		11,600
APRIL 2.—By the <i>Southwark</i> =Antwerp:		
Reimers & Co.	85,000	
George A. Alden & Co.	11,000	
Crude Rubber Co.	11,000	
Albert T. Morse & Co.	8,000	115,000
APRIL 4.—By the <i>Germanic</i> =Liverpool:		
Reimers & Co.	17,000	
Crude Rubber Co.	6,000	

AFRICANS—Continued.

Livesey & Co.	5,000	28,000
APRIL 8.—By the <i>Serria</i> =Liverpool:		
Robinson & Tallman	1,500	
Reimers & Co.	12,000	
George A. Alden & Co.	7,500	
Crude Rubber Co.	8,000	29,000
APRIL 9.—By the <i>Manitou</i> =London:		
Albert T. Morse & Co.		32,000
APRIL 10.—By the <i>Georgian</i> =Liverpool:		
George A. Alden & Co.	135,000	
Crude Rubber Co.	22,500	157,500
APRIL 11.—By the <i>Majestic</i> =Liverpool:		
Livesey & Co.	12,000	
George A. Alden & Co.	6,000	
Crude Rubber Co.	6,000	24,000
APRIL 12.—By the <i>Dona Maria</i> =Lisbon:		
George A. Alden & Co.	62,000	
Crude Rubber Co.	60,000	122,000
APRIL 13.—By the <i>Phoenicia</i> =Hamburg:		
Livesey & Co.	13,500	
A. T. Morse & Co.	6,500	
G. Amsinck & Co.	2,500	22,500
APRIL 15.—By the <i>Campania</i> =Liverpool:		
Reimers & Co.	9,500	
William Wright & Co.	1,000	10,500
APRIL 17.—By the <i>Philadelphian</i> =Liverpool:		
A. T. Morse & Co.		35,000
APRIL 17.—By the <i>Oceanic</i> =Liverpool:		
Crude Rubber Co.	17,000	
Reimers & Co.	20,000	
George A. Alden & Co.	6,000	
Livesey & Co.	4,000	47,000
APRIL 18.—By the <i>Kensington</i> =Antwerp:		
George A. Alden & Co.	119,000	
Crude Rubber Co.	119,000	238,000
APRIL 20.—By the <i>Patricia</i> =Hamburg:		
Reimers & Co.	35,000	
A. T. Morse & Co.	35,000	
Livesey & Co.	11,500	
J. A. Paul & Co.	2,500	84,000
APRIL 22.—By the <i>Umbria</i> =Liverpool:		
Reimers & Co.	50,000	
Crude Rubber Co.	25,000	
George A. Alden & Co.	15,000	
Livesey & Co.	5,000	95,000
APRIL 22.—By the <i>Cymric</i> =Liverpool:		
Crude Rubber Co.	23,000	
George A. Alden & Co.	22,500	46,500
APRIL 23.—By the <i>Zeeland</i> =Antwerp:		
A. T. Morse & Co.	45,000	
Otto G. Mayer & Co.	16,000	61,000

GUTTA-PERCHA AND BALATA.

POUNDS.

MARCH 30.—By the <i>St Louis</i> =Southampton:		
George A. Alden & Co.		2,500
APRIL 1.—By the <i>Bulgaria</i> =Hamburg:		
R. Soltan & Co.		8,000
APRIL 1.—By the <i>Minnchaha</i> =London:		
R. Soltan & Co.		30,000

GUTTA-PERCHA—Continued.

APRIL 8.—By the <i>Borne</i> =Liverpool:		
R. Crooks & Co.		9,000
APRIL 20.—By the <i>Patricia</i> =Hamburg:		
R. Soltan & Co.		5,000
BALATA.		
APRIL 8.—By the <i>Maraval</i> =Trinidad:		
Middleton & Co.		3,500
APRIL 20.—By the <i>Patricia</i> =Hamburg:		
R. Soltan & Co.		5,000

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—MARCH.

<i>Imports:</i>	POUNDS.	VALUE.
India-rubber	7,209,558	\$3,618,106
Gutta-percha	19,270	20,624
Gutta-jelatong (Pontlanak)	2,403,198	76,729
Total	9,732,026	\$3,715,459
<i>Exports:</i>		
India-rubber	100,333	\$66,867
Reclaimed rubber	66,510	19,445
Rubber Scrap Imported	764,322	\$43,977

BOSTON ARRIVALS.

POUNDS.

MARCH 1.—By the <i>Ivonia</i> =Liverpool:		
Livesey & Co.—African		17,375
MARCH 4.—By the <i>Sagamore</i> =Liverpool:		
Reimers & Co.—African		11,405
MARCH 12.—By the <i>Ullonia</i> =Liverpool:		
Livesey & Co.—African	11,982	
Reimers & Co.—African	7,301	19,283
MARCH 14.—By the <i>English King</i> =Antwerp:		
Reimers & Co.—African		20,688
MARCH 18.—By the <i>Sylvania</i> =Liverpool:		
Reimers & Co.—African	8,950	
Boston Woven Hose Co.—African	1,466	10,416
MARCH 20.—By the <i>Sachem</i> =Liverpool:		
Livesey & Co.—African		6,377
MARCH 30.—By the <i>Kansas</i> =Liverpool:		
Livesey & Co.—African		7,199
Total		92,743

[Value, \$43,106.]

[NOTE.—The dates of Boston arrivals published last month inadvertently appeared as "March," instead of which they should have read, in each case, "February,"]

GUTTA-PERCHA.

MARCH 4.—By the <i>Lady Armstrong</i> =Hamburg:		
		2,448
MARCH 9.—By the <i>Winifredian</i> =Liverpool:		
		1,118
MARCH 14.—By the <i>Pomerania</i> =Glasgow:		
		500
MARCH 18.—By the <i>Gorsemore</i> =London:		
		4,596
Total		8,662

[Value, \$283.]

MARCH EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Comk, Prusse & Co.	81,654	17,273	58,576	618	158,121	132,894	26,385	49,912	47,736	256,927	415,048
Frank da Costa & Co.	193,787	28,359	108,836	7,370	338,352	—	—	8,532	2,100	10,632	348,984
Adelbert H. Alden	177,050	38,542	60,245	524	276,361	61,730	13,300	17,510	—	92,540	368,901
Rudolf Zietz	6,920	1,013	54,080	—	22,013	19,535	2,189	13,112	12,178	47,014	69,027
The Sears Para Rubber Co.	202,713	26,064	74,541	3,334	306,652	—	—	—	—	—	306,652
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	8,206	60	477	—	8,743	8,743
Kanhack & Co.	—	—	—	—	—	12,665	2,040	153	—	14,858	14,858
Denis Crouan & Co.	—	—	—	—	—	41,261	13,631	8,128	—	63,070	63,070
Pires Teixeira & Co.	1,400	—	826	—	2,226	—	—	—	—	—	2,226
Sundry small shippers	—	—	—	—	—	—	—	—	3,000	3,000	3,000
Direct from Iquitos	—	—	—	—	—	44,090	3,600	35,349	85,371	168,410	168,410
Direct from Mauaos	858,265	269,734	251,387	320,645	1,700,031	635,209	163,360	242,379	426,315	1,467,263	3,167,294
Total for March	1,521,789	380,985	568,491	332,491	2,803,756	955,590	224,615	375,552	576,700	2,132,457	4,936,213
Total for February	1,015,987	278,004	549,566	251,815	2,095,372	789,338	198,350	306,855	154,519	1,449,062	3,544,434
Total for January	577,296	119,433	420,279	53,772	1,070,780	656,333	116,246	252,554	120,064	1,145,197	2,315,977



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BRAZILIAN "RUBBER FARMS" FOR SALE.

WE have before us descriptions of several "rubber farms" in the Amazon river country that are for sale. Some of them are offered by the proprietors, and others by banks at Pará, which, having made advances to the owners of the "farms," have taken over the properties in default of payment. We do not know the merit of these particular opportunities for investment, but the fact that they exist suggests several points of interest.

In the first place, the rubber gathering business probably is better organized than most of us hitherto have supposed. It appears that the 50,000,000 pounds or more of rubber annually exported from the Amazon is not gathered mainly by half-savages, roaming in vast forests, tapping at random such rubber trees as they may chance to find. It would require more than such haphazard methods to form the basis for the business of the banks and mercantile houses of Pará and Manáos, the hundred or more steamers on the Amazon, and the rubber carrying ships on the Atlantic, which transport not infrequently a cargo of rubber worth \$1,000,000 or more.

On the contrary, each of the "rubber farms" is described as consisting of a definite number of *estradas* (paths, or roads), marked out so as to give ready and certain access to the particular rubber trees to be tapped, the approximate number of trees also being given. This preliminary work of road making is not done for a single season, but is meant to be permanent, so that, when a plentiful supply of prolific trees is once located on a navigable stream, they may be visited season after season, with an assurance of a yield that will prove profitable. From one description we quote: "This farm was marked off five years ago, for which service was paid 40 contos of reis (equivalent to-day to \$10,000)." The number of trees on this estate is estimated at 20,000. There are also said to be on the farm wooden buildings, cattle, etc., besides which four steam launches are owned. Doubtless on an estate where the business of rubber gathering has been prepared for with so much forethought and at such expense, we might to-day see a force of workers established all the year round, but for the fact that the annual rising of the rivers scatters the rubber hunters for a certain period. As it is, the crop season, during which the trees are tapped daily, is something more than six months in the year.

It may be asked why, in the face of such preparations and the presence of rubber in paying quantities, the owners of these farms should want to sell. The reason given is the financial depression from which all Brazil is suffering. Any manufacturer who buys Pará rubber is prepared to believe that somewhere, between the forest and the factory, good profits are made on it. The owners of many of these farms have profited largely, but their money has been made too easily for any thought to have been taken for the morrow. Hence the beginning of each new season finds most of them with nothing but their *estradas*, waiting to be worked. They must send for workers, and provide for them until the proceeds of the year's crop come to hand, all of which makes necessary advances from merchants or

bankers, who are generally at a distance. Whatever may be the prime cause, money is now a scarce article in the rubber country, the rate of exchange is most unfavorable, and credits have become contracted to an extent which leaves the weaker operators helpless. It is quite possible that the number of persons in the rubber gathering business, and the number of estates, affected by the Brazilian financial crisis will be so great as to curtail seriously the production of rubber during the coming season.

All of which leads to the thought that if the Pará rubber already produced has come, to an important extent, from systematically marked out farms, visited year after year by workers under the same control—albeit the general management of these estates may have been wasteful and improvident—there may be a good opportunity for the investment of capital by outsiders, on a basis of cash capital instead of advances of goods and credit, in very large tracts of rubber lands, to the profit of the investors, while rendering the supplies of rubber more stable and the ultimate cost to the manufacturer lower.

A PANIC AND WHAT IT SUGGESTS.

DURING the past month has been witnessed a Stock Exchange "panic," which, unlike previous occurrences of the kind, was felt in its effects, not only in New York and its vicinity, but throughout the country and even in Europe, so widespread has become the interest in speculating in the stocks dealt in here. But what is more to the point, this so-called panic differed from others in the past in that it was unaccompanied by the failure of great financial institutions, to the injury of other than speculative interests. Fluctuations in stocks due to the contending of "bulls" and "bears" we always have had and probably always will have, and a "panic" which hurts only those who guess wrong on the next turn of the market gives little concern to the owners of the properties which the stocks traded in represent, and who devote their attention to the control of these properties for the purpose of making legitimate profits.

At the same time, the fact that the Wall street flurry of last month passed without involving in ruin any of the business and industrial interests of the country is a cause for congratulation, for, as has just been said, the country has not always been so fortunate under like circumstances. There is evidence in all of this of a sound substantial basis for existing business and industrial enterprises, the success of which makes for the prosperity of the nation, instead of a basis of credit or speculation. And the ill effects to those who lost—even if only on paper—as the result of this great speculative frenzy doubtless will be found to go deep enough to serve as a warning to their class, for a good while to come, against repeating their tactics on so large a scale.

This is, of course, no place to discuss the merits of the contest between certain great railway interests in the West, which, no doubt without any such intention on their part, provided the opportunity for the stock gambling pure and simple which was the world's wonder for the day. But

it may be worth considering whether the struggle for supremacy between the rival railway magnates was merely for the control of the transportation business of the West such as it has been hitherto. Among these men are some who are exceptionally broad minded and far seeing; and there is reason to believe that they look for the greatest commercial development of the new century on the Pacific ocean and in the countries which abut upon it. Some of the great American railway companies whose lines touch the Pacific already are interested in the building on our western coast of some of the largest steamships yet designed, evidently with the idea of combining in one system land transportation to the "Golden Gate" with sea transportation beyond. The same thing is being done with railway lines extending to the Atlantic seaboard and transatlantic shipping.

The prospective development on the Pacific will stimulate the growth of population and wealth in the states of the Far West, just as nearness to the Atlantic long gave the seaboard states on this side of the continent an advantage over the rest of the country. Then, with an actively developed ocean commerce on both borders of the United States, the center of the country ought to be twice as well off as when it was in touch with only one tier of seaboard states.

The Wall Street "panic," therefore, has been of general interest, first in giving the country a chance to see how prosperous it is, and, secondly, in calling attention to the probable tendency of transportation development west of the Mississippi.

THE EXHIBITION AT BUFFALO.

THE Pan American Exposition, which was formally opened at Buffalo, New York, on May 20, may be regarded as the most tangible result, up to date, of the endeavors made by the late Secretary Blaine to promote closer relations among all the republics on this hemisphere. The statesmen of this then young nation who, nearly a century ago, sided with the revolting Spanish colonies to the south of us in their efforts for independence, were influenced in part by the idea that under a new régime the door would be opened for a profitable commerce between us and them. The hope of a great development in this field has never become extinguished, though the results attained have not always been most encouraging.

Not only have other markets been nearer to us geographically, and far more convenient to our chief ports when shipping facilities were considered, but our trade has prospered more in other directions because of a better understanding between our own people and those of some other countries. The matter of habit—formed before the United States became a great nation—to say nothing of racial kinship, and, to a large extent, sympathy with European political ideas, long attracted South Americans to the old world to an extent which has kept them as a class from informing themselves about this country. On the other hand, while Europeans have traveled in South America, made their homes there, and established banks and mercantile

houses there, besides shipping lines and telegraphic communications, our own business men, of all classes, have neglected to do any of these things which lead the way to a growth of commerce.

Gradually conditions have changed, however, until practically all the various southern countries have been found in a state of readiness to cooperate cordially in the Pan American exhibition now being held here. And the enterprise at Buffalo means also that our own people have come to a better realization of means calculated to promote that better international understanding which stimulates mutual trade relations. We say mutual, for no commerce can long exist which does not benefit both parties to it, whether between individuals or nations. It is to be hoped that the Latin Americans who visit us during this season will be both interested and pleased, while it is probable that our own people will have as much to learn—or unlearn—about the other nationalities represented as anybody else who may take part in the exhibition at Buffalo.

It is proper in these columns to recall that India-rubber long has been one of the most important items in the commerce between this and several of the neighboring countries to the south, and the continued growth of the rubber interest seems likely to play a large part in inviting investments of capital from the United States in those countries. In fact, probably no other business interest in the United States has more reason to feel a concern in the success of the Buffalo exhibition and the progressive ideas that it stands for.

RUBBER BAGS FLOAT CABLE.

A PRESS dispatch from England, dated May 6, said: "A submarine telegraph cable for the Commercial Cable Co. between Waterville, Ireland, and Weston-Super-Mare, where the cable will be directly connected with London, has just been completed. Many persons witnessed the work of landing the shore end from the cable steamer *Silvertown*. This was accomplished by the new method of floating the cable by means of inflated rubber bags. The completion of this work marks the ending of a long struggle with the British government to accomplish it."

GUTTA-PERCHA AS SHE WAS SEEN IN PARIS.

IN a "Practical Guide to the Universal Exhibition, Paris," written last year by a Frenchman in English for the special benefit of English visitors, occurred this reference to a Belgian exhibit:

"The employment of Gutta-percha in the horseshoe is quite recent. They are the Americans who the first have invented this application. At present, velocipedes, to speak of but of these objects, have their wheel provided with a cushions in Gutta-percha, which softens the march, avoids all jolts, to prevent the wear and tear all that was is not to be wished for the cavalier as much as for the tricycle? M. Francis Dejean has he inspired him of this aim. We ignore it, and we have not to occupy us with it. We insist only to make observe that the invention of the horseshoes Dejean constitutes an enormous improvement and that it is not astonishing that the public makes them a good reception."

EXPORTS OF AMERICAN RUBBER GOODS.

THE total exports from the United States of goods classed as "Manufactures of India-rubber" during the first ten months of the fiscal year beginning July 1, 1900, were:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-Feb.....	\$343,509	\$612,279	\$1,112,708	\$2,068,496
March, 1901..	48,353	29,576	161,168	239,097
Total.....	\$391,862	\$641,855	\$1,273,876	\$2,307,593
1899-1900..	397,679	311,973	1,016,612	1,726,264
1898-99....	(a)	202,672	1,052,721	1,255,393

(a) Not separately reported prior to July 1, 1899.

The number of pairs of rubber footwear exported was 1,316,380, against 572,952 pairs for the same period last year, and 379,119 pairs in ten months of 1898-99.

Exports of reclaimed rubber during the same months were:

1898-99.	1899-1900.	1900-01.
\$244,129	\$367,497	\$322,791

DISTRIBUTION OF RUBBER EXPORTS.

THE manufactures of India-rubber exported from the port of New York during the four weeks ended April 30, 1901, amounted in value and were destined as follows:

Great Britain..	\$36,665	Newfoundland.	435	Ecuador.....	15
Germany.....	8,543	Nova Scotia...	131	Peru.....	380
France.....	2,192	Mexico.....	4,782	Venezuela....	305
Belgium.....	1,278	Central Amer.	422	Australia....	7,194
Holland.....	1,476	Cuba.....	4,913	New Zealand..	175
Aus.-Hungary.	1,693	British W. Ind.	471	China.....	200
Switzerland...	62	Haiti.....	30	Japan.....	2,587
Italy.....	232	San Domingo.	84	Philippines...	68
Turkey.....	172	Argentina....	1,387	British E. Ind.	121
Russia.....	475	Brazil.....	778	British Africa.	3,194
Denmark.....	578	Chile.....	262		
Nor'y-Sweden.	4,114	Colombia.....	646	Total...	\$86,060

Some other exports during the same month were:

Dress Shields.—To Southampton \$4540; Liverpool \$3179; Havre \$1517; Hamburg \$4366; Antwerp \$5396; Vienna \$1435; Australia \$498; total \$20,861.

Clothes Wringers.—To Belgium \$1777; Germany \$1437; Great Britain \$5390; France \$335; Oceanica \$1001; Other countries \$1015; total \$10,955.

India-rubber Thread.—To Hamburg \$9685; Rotterdam \$9175; Havre \$1843; Genoa \$4716; Antwerp \$450; St. Petersburg \$200; total \$26,069.

Reclaimed Rubber.—To Liverpool \$7240; Glasgow \$3421; Manchester \$1200; Havre \$4339; Bordeaux \$900; Genoa \$2881; Hanover \$1000; total \$20,981.

BRITISH EXPORTS OF RUBBER GOODS.

OFFICIAL statement for three months ending March 31:

	1899.	1900.	1901.
Value—English money.....	£320,298	£372,884	£298,872
Value—American money.....	\$1,601,490	\$1,664,420	\$1,594,360

The figures for January–March, 1901, include £35,365 (= \$176,825) worth of rubber boots and shoes—an item not reported separately hitherto. The number of pairs exported during the three months was 307,452.

COMPARATIVE EXPORTS OF RUBBER FOOTWEAR.

THE latest return from the German imperial statistical office gives the value of the exports of rubber boots and shoes from that country during January–March, 1901, at 604,000 marks, compared with 357,000 marks value for the same months of last year. The values of such exports for the three countries named below, for the first three months of the year were as follows:

	American money.	English money.	German money.
United States.....	\$149,039	£29,808	596,156 marks
Great Britain...	176,825	35,365	707,300 "
Germany.....	151,000	30,200	604,000 "

TWENTIETH CENTURY DINNER OF THE NEW ENGLAND RUBBER CLUB.

THE New England Rubber Club, whose dinners are all notable and enjoyable affairs, met for their annual meeting and dinner at the Exchange Club, Boston, on the evening of May 3. The whole clubhouse, including the spacious reception rooms and the ample banquet hall, was thrown open to the rubber men. From 6 to 6.30 o'clock there was an informal reception which was brought to a close when President Henry C. Morse called those present to order for the brief business meeting that the club holds once a year. Mr. Henry C. Pearson, secretary of the club, then read the following report, which was accepted for the club records:

SECRETARY'S REPORT.

MR. PRESIDENT AND MEMBERS OF THE NEW ENGLAND RUBBER CLUB: The first meeting of this Club as a whole was held on the evening of April 16, 1900, at the Trade Club, Boston. The report of the secretary at that meeting gave in detail the history of the beginnings of the organization, while the treasurer's report showed a considerable sum from advance dues and initiation fees. The official board, whose duties end with this meeting, were elected on a single ballot.

After the business meeting an excellent dinner was served, which in turn was followed by speeches, music, and a stereopticon exhibition. There were present at this gathering sixty-five members and guests.

The second general meeting of the Club was the "Midsummer Impromptu" held at the Point Shirley Club, Winthrop, Mass., August 21, 1900. This was in every way a successful and enjoyable affair. There were present some sixty members and guests.

The third meeting of the Club, held at the Hotel Essex, Boston, on the evening of November 19, was commemorative of the birth of Charles Goodyear. Distinguished speakers were present, and as a whole the dinner was perhaps as notable as any trade club banquet ever given in Boston. A unique feature was an exhibition of rare and valuable Goodyear relics that had not been shown before since 1855. There were present at this meeting 110 members and guests.

The work of the executive committee, and of the sub-committees, has been done with as little red tape as possible, and with no friction. Members of the Club, also those who were not officers or members of any committee, have been most efficient and helpful in bearing a share of the work of preparation for dinners and entertainments. Respectfully submitted,

HENRY C. PEARSON,
Secretary.

May 3, 1901.
Treasurer George P. Whitmore then presented the following report, which was duly approved and accepted:

TREASURER'S REPORT.

Receipts from February 9, 1900, to April 15, 1901.

From Rubber Trade, balance from Sound Money		
Parade.....	\$ 10.00	
" 115 Members for Initiation, at \$5 each....	575.00	
" 115 Members for dues to April 1, 1901....	526.21	
" Members for Annual Dinner, April 17, 1900.	184.95	
" Members for Midsummer Outing and Dinner, August 21, 1900.....	296.30	
" Members for Midsummer Outing Pictures, August 21, 1900.....	18.00	
" Members for Fall Dinner, November 19, 1900.	414.45	\$2,024.91

Disbursements from February 9, 1900, to April 15, 1901.

Stationery, printing, stamps, etc.....	\$265.87
Thomas F. Galvin, for floral pieces for funerals....	23.90
Thomas F. Galvin, flowers, dinner Nov. 19, 1900..	20.00
Dinner April 17, 1900, Trade Club.....	259.55
Dinner August 21, 1900, Point Shirley Club.....	266.30
Dinner November 19, 1900, Hotel Essex.....	388.95
Dinner extras, connected with Goodyear exhibit...	46.57
Stenographer, November 19, 1900.....	10.00
Quartette, April 17, 1900	20.00
S. S. Lurvey, Orchestra 5 pieces, August 21, 1900.	20.00
Stereopticon expenses, April 17, 1900.....	3.30
Winthrop steamboat, August 21, 1900.....	20.00
George E. Reade, Barges, 62 passengers, August 21, 1900.....	18.60
Daniel Frank & Co., cigars, August 21, 1900.....	10.43
Elmer Chickering, outing photographs.....	18.00
	<hr/> 1,391.47

Cash on hand, April 15, 1901. \$653.44



HENRY C. MORSE,
Retiring President of the Club.

The election of officers being the next business in order, the following nominating committee was appointed by the chair, George H. Hood, J. F. Wheeler, and J. F. Dunbar, who retired and soon brought in a list of names which was submitted, and by request the chairman of the nominating committee deposited one ballot for the members present. The new officers are:

- President—A. O. BOURN.
- Vice President—L. D. AFSLEY.
- Secretary—H. C. PEARSON.
- Assistant Secretary—W. H. GLEASON.
- Treasurer—G. P. WHITMORE.
- Directors—A. W. Stedman, C. H. Arnold, F. T. Ryder, G. H. Forsyth, F. C. Hood, A. M. Paul.

The meeting was then adjourned, the officers and guests leading the way to the banquet hall. Here covers were laid for eighty. The tables were decorated in excellent taste with flowers, a fine center piece occupying a space in front of the chair of the toastmaster, while each guest had a neat boutonniere.

MENU.

	Little Neck Clams	
	Hors D'Oeuvres	
Radishes	Olives	Salted Almonds
	Soups	
	Creme du Volailles, Reine Margot	
	Consomme, Monte-Carlo	
	Fish	
	Boiled Fresh Salmon, Sauce Hollandaise	
Cucumbers		New Potatoes
	Releve	
	Sirloin of Beef, larded, Duchesse	
	Potatoes, Maitre d'Hotel, au gratin	
Haricot Panache	Entree	
	Noisette of Lamb, Turenne	
	Petit Pois	
	Punch—Cardinal	
	Game	
	Roasted English Snipe, on Toast	
Lettuce and Tomato Salad		Saratoga Potatoes
	Dessert	
	Vanilla Ice Cream, with Strawberries	
	Cakes	
Cheese		Coffee

On the back of the menu was printed "Our Creed," which struck the keynote of the evening:

All competition is forgot—
Disputes are in the dust,
We meet as friends and brothers here
A social "rubber trust."
The "glad hand" is held out to all
With good luck at its beck,
It welcomes every rubber man
Except the "rubber-neck."

The speakers of the evening included General Curtis Guild, Jr., Lafayette Blair, Esq., Prof. Stephen P. Sharples, Dr. Joseph C. Stedman, and Mr. T. E. Stutson.

The president elect, ex-Governor A. A. Bourn, was toastmaster, introducing as the first speaker General Guild, who immediately got in touch with his audience by his opening sentence—"Mr. President and Brother Rubberers." In the happiest possible way he then related a series of anecdotes that were full of vim and humor and earned him frequent and enthusiastic applause. He then eulogized Benjamin Franklin as the father of American industries, and briefly summarized the latter's achievements in the invention of stoves, the discovery of the electrical current, and the introduction of broom corn.

He described the gradual transition of the United States in 100 years from a nation absolutely dependent upon Europe and Asia for every manufactured article to a nation that now supplies both Asia and Europe with manufactures, as well as other exports.

Speaking of rubber, he said: In a decade you gentlemen have seen the imports of crude rubber double. In value the imports of rubber are seventh in the entire list, and that value last year was \$31,559,371, against \$14,854,512 in 1890.

In a decade we have not only doubled our imports of raw material, but more than doubled our exports of manufactured rubber goods. Our imports of rubber manufactures are but a third of the value of our exports. Ten years ago we exported barely \$1,000,000 worth of rubber goods. Last year our exports were worth nearly \$2,500,000. The American rubber boot has marched around the world, and you find its noiseless track not merely in Canada and Germany and England, but in Haiti and Hongkong, in Ecuador and Japan.

The American mackintosh coat has beaten its English competitor, as the American hat and the American shoe are driving foreign competitors out of the home market.

Then, to wind up with, the general told humorously of his experiences while in Colorado last fall, campaigning with Colonel Roosevelt.

Lafayette G. Blair, the next speaker, skilfully and wittily "guyed" both General Guild and Secretary Pearson until he had his listeners, including the victims, convulsed with merriment. He spoke eloquently for the profession of law and Rufus Choate and the "good young days" when commercialism did not rule mankind to quite the extent which it does to-day. Then, said he, honor and integrity were the chief capital of lawyer and merchant. But some day in the future, he prophesied, a time will come when the lawyer will argue not for the almighty dollar in it, but for the simple love of justice.

"I hope the day will come," said he, "when collections, di-

vorces, torts, and other things of the kind will be taken care of by the state, without the intervention of lawyers at all." He suggested that perhaps some day we shall have a court of arbitration, where poor people can go and tell their stories, when in dispute, without the need of counsel or technicalities or pleading. And he went back to the days of Cicero, and wondered—could the author of the famed philippics go into the Suffolk county court house to-day—if he would find that much real progress had been made since the days of Rome, after all.

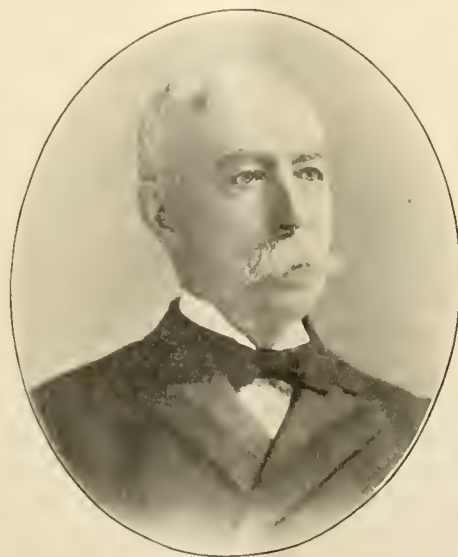
Governor Bourn introduced Professor Sharples as one who had kept track of the chemistry of rubber as had few others, giving interesting incidents in connection with certain notable rubber law suits in which both of them had been brought in contact.

Professor Sharples gave an interesting and scholarly talk on "The Chemist's Opportunities in the Rubber Industry." He was not certain, he said, that we cannot some day make rubber by artificial means, and he quoted other instances, almost as remarkable, where as great results of inventive genius have been obtained.

The experiments so far in this direction have been made in the wrong way. Adulterations have been made, not substitutes. He told of "recovering" rubber, and said that old shoes yield the best result in this line.

Dr. Stedman gave, in his remarks upon "India-rubber from a Physician's Standpoint," a wonderful list of uses to which this commodity has been put. And he told of the Irishman who, after having used a rubber hot water bag, on his doctor's advice, replied to a question as to how it worked: "Well, begorra, it cured the colic, sure, but the water had a mighty strong taste of rubber!"

Mr. Stutson came on very late, but the stories which he had with him were so witty and so well told that he had the real honor of a clamorous demand from all present to "tell another," and "another" very laughable one was given before the orchestra played



AUGUSTUS O. BOURN,
The New President of the Club.

"Auld Lang Syne."

ECHOES OF THE DINNER.

MR. J. EDWIN DAVIS, sales manager of the Mahoning Rubber Manufacturing Co. (Youngstown, Ohio), attended the dinner and his many friends took occasion to bid him good-bye and good luck in his new field. He brought for guests two of the official board of his company, Mr. J. S. McClurg, general superintendent, and Mr. John Tod, treasurer, the trio leaving for Youngstown the next day.

=Mr. John J. Voorhees, of the Voorhees Rubber Manufacturing Co. (Jersey City, N. J.), expected to be present as a guest, but, business interfering, was obliged to remain in Jersey.

=Mr. Wm. J. Kelley (Boston) was unable to attend the reception and so missed the many appreciative things that were said of his helpfulness in arranging with the club steward the details of the dinner.

=Mr. Arthur W. Stedman was unable to be present, as he was called out of town suddenly. His regrets were shared by all present, as his unfailing good humor and courtesy are a potent factor in the social features of the club.

=Assistant Secretary Gleason was in fine humor all the eve-

ning. It is claimed that he shook hands with everybody in the hall, including himself, at least three times, and, although normally an avowed critic, found nothing but good in sight.

=Mr. F. L. Torres, one of the most experienced rubber planters of Mexico, was present at the dinner as the guest of Mr. Fletcher.

=Mr. R. A. Loewenthal of New York, and Mr. H. F. Wanning of Birmingham, Conn., enjoyed the reception and dinner as guests of Mr. Theodore S. Bassett.

=It is only through the invitation of a member that an outside organization can make use of the Exchange Club. Each individual member of the New England Rubber Club was there actually as the guest of Mr. C. C. Converse, who for that evening cheerfully stood sponsor for him, financially and otherwise.

=Treasurer Whitmore was on hand from start to finish greeting members and keeping a keen eye on the many details that go to make up the successful dinner.

HEARD AND SEEN IN THE TRADE.

ALL reports on the rubber shoe situation are to the effect that never before, at this season, have orders been placed on so large a scale. Dealers, large and small, are anxious to provide for next winter's trade before prices, which are "subject to change without notice," are advanced. Rubber footwear can now be bought for less money than at any time since the period of cut-throat competition nine or ten years ago—with the exception of a brief period in 1897, and, having in view the high prices attained only two years ago, jobbers and retailers are determined not to take the risk of waiting until the manufacturers put up prices before sending in their orders.

* * *

THE factories are busy, too. Most of them are running to full capacity, and in the rubber shoe centers advertisements have appeared for a month past, calling for additional labor. Many of the plants have orders in hand that will keep them busy for months to come, which is a welcome condition for the employés, for whom steady work has not been afforded for a year or more.

* * *

STOCKS of rubber footwear in the hands of dealers at the end of the past season were not so heavy as might have been expected, in view of the "open" winter. In the first place, jobbers and retailers ordered less freely last summer, in consequence of the preceding winter having been, in many parts of the country, unfavorable for their business. At the beginning of last year's season it was estimated by the Western Association of Shoe Jobbers that 26 per cent. of the purchase of rubbers by their customers since May 1, 1899, were still on their hands. Another effect of this condition was to render manufacturers more conservative, so that last year's production was not so large as otherwise, would have been the case. It may be added that dealers ordered less freely last season on account of the high prices.

* * *

A PROMINENT jobber in New York is convinced that retailers' stocks in his territory had been well reduced by the end of the season, by the fact that the rainy season in April and May led to many orders for rubbers from retailers, which would have been unnecessary if they had been well stocked with goods of this class.

* * *

THE demand for solid rubber vehicle tires continues to increase steadily. There is some complaint, by the way, on account of the general activity of the steel industry, of difficulty in getting prompt delivery of channels for tires, besides which there has been an advance in cost.

* * *

AND still new designs in rubber shoe heels are coming in, and patented ones, too. There is doubt about there being a

very considerable consumption of rubber in catering to the demand for this new article in trade. The best evidence that the wearing of rubber heels is a habit that is growing is the frequency with which leather shoes equipped with rubber heels are called for. It is not known that any leather shoe factory is turning out goods of this class for stock, but such goods are being made right along on orders. One leather shoe manufacturer is mentioned as having placed an order lately for 10,000 pairs of rubber heels, to be put on shoes before shipment from his factory.

* * *

THERE is one important and long established concern in the mechanical goods trade which has never as yet offered any kind of rubber tire to the trade, and yet which has been in a state of readiness, from the beginning of the growth of bicycling on a large scale, to make bicycle tires. At the factory exists a complete outfit for the manufacture of tires, in order that, if it should at any time seem desirable to enter the trade, tires could be produced on short notice. The company may have seemed to some people ultra conservative in not putting this part of the factory to work at the time when the tire craze was at its height, but in view of the experience of many other concerns in the rubber trade, the stockholders probably are now quite well satisfied with the policy of holding back adopted by their managers.

* * *

"ONE thing that struck me about the rubber business abroad," said a returned American, "was the difference in the relations between the crude rubber merchants and the manufacturers. Meeting a rubber merchant, I asked him if he knew a prominent manufacturer in the same city. No, he did not; he had never met him, and therefore had never offered him any rubber. I wondered if a crude rubber man in New York could have remained so many years unacquainted with a near by manufacturer."

* * *

A MAN of long experience in the crude rubber trade has called my attention to his list of rubber manufacturers, which he has divided into classes, beginning with those who discount their bills, and ending with those who give notes at four months. Some companies which, not so many years ago, belonged to the latter class, now discount their bills, and the general improvement which has taken place in this regard would seem to be evidence that the industry in the United States is steadily getting upon a firmer footing. The crude rubber man referred to believes that the industry as a whole was never in a sounder condition than to-day. One other evidence of this condition may be found in the small number of rubber companies who have failed during the past five years, to say nothing of the new concerns that appear to be making money.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

WITH the amalgamation of the Dunlop Rubber Co. and the Rubber Tyre Manufacturing Co., Limited, and the absorption of the business of the Dunlop Pneumatic Tyre Co., Limited, all under the name of the Dunlop Rubber Co., *cosmos* may be said to have taken the place of *chaos* as far as the general public is concerned with regard to the real ownership of these concerns. There has been a good deal of confusion outside the firms themselves as to the business relations previously existing between the three companies just named, a fact which need cause no surprise, but the consolidation effected will remove this. Those who know him say that in losing Mr. Finlay Sinclair, their late manager, the Dunlop Rubber Co. have suffered a reverse, the full effect of which will be experienced as time proceeds. Mr. Sinclair has joined the board of the Preston-Davies Tyre and Valve Co., whose factory is about to be removed from Glasgow to Coventry. The "Scottish" tire of this company has been highly praised to me by riders whose long distance experiences entitle them to speak with authority. At present this tire is made under license from the Dunlop company, but it is not improbable that, when the monopoly runs out, in about three years' time, the Preston-Davies company will be opponents to be reckoned with. With regard to the motor tire business, I understand that an arrangement has been come to between the Dunlop company and Michelin et Cie., of Clermont-Ferrand (France), by which the former company becomes the sole agents in the United Kingdom for the well known Michelin motor tires, one term of the agreement being that tires up to the value of £80,000 must be purchased by the Dunlop company. By this arrangement it is now impossible for motor-car enthusiasts in this country to buy Michelin tires at the price they are sold at in France, but only at what the Dunlop company choose to sell them for. With regard to the appointment of Mr. Edward J. Byrne as advisory expert to the Dunlop Rubber Co. for twenty years at a salary of £2500 per annum, somewhat caustic remarks have been made by individuals, but it is not unlikely that "envy, hatred, malice, and all uncharitableness" have had some influence in the framing of these comments. The expert's principal task in the near future will be to make a motor tire equal to Michelin's. Will he be able to do it?

SOME surprise has been expressed that while the use of rubber lined fire hose in the country as a whole is anything but extensive, the Metropolitan fire brigade should use it exclusively. The reason, however, appears to be that the rules and regulations under which the fire brigades of the metropolis and of the country towns carry out their duties differ to some extent. Thus in London the firemen have the power, if not exactly to break, at any rate to enter, any dwelling house in which they have reason to suppose their services are required, while the firemen in the country cannot enter until they are invited, so to speak. The use of the rubber lined hose in London is to prevent damage to house property by leakage, which so commonly takes place in unlined hose, especially at first until the flax has absorbed the necessary amount of water to render it subsequently water-tight. Outside the metropolis it cannot be said that the rubber lined hose is increasing rapidly in favor, on account of its greater cost, heavier weight, and inferior longevity compared with flax

hose pure and simple. With regard to the two varieties of rubber-lined hose—namely, that which is made in the ordinary way with a seam, and that which is made by the seamless method—practical men seem to think that the objection that the seam in the rubber retards the flow of water to some extent is unworthy of serious consideration.

WE are soon likely to have the cellulose product patented by Carl Otto Weber on the market, if what I hear is reliable. So far the attempts which have been made by other investigators, notably Messrs. Cross & Bevan of London, to make a satisfactory rubber substitute from cellulose have not achieved any real success. I don't quite know how the new viscose differs from what has previously been experimented with, though I believe that in its main composition it is very similar; that is, it is a solution of highly mercerised cellulose fiber in bisulphide of carbon. The term "mercerised," it may perhaps be mentioned, refers to the treatment of cellulose in various forms with strong caustic soda solution. The viscose product is expected to take the place of rubber largely in mechanical mixing and points which are certainly in its favor are its comparatively low price and non-liability to oxidation.

THREE engineering firms are now engaged making the necessary plant for carrying out the vulcanization of rubber tires in about 2½ minutes, so it looks as if the process had come to stay, despite the forebodings of evil which have been and are still expressed about the future of the process. It will hardly, however, be contended that it is applicable to rubber of any thickness, unless it happens to be nearly all mineral of fire brick nature. Of course, with thin tire strips the case is very different, and there is nothing inherently improbable about success being attained in this direction.

ON May 9 a demonstration of this patent machine took place at the rubber machinery works of Messrs. Iddon, at Leyland, in the presence of a numerous gathering of representatives of the rubber trade. Mention of this machine has already been made in this correspondence, and a few supplementary remarks will be all that is necessary on the present occasion. There are two spreading gages and calender rolls at each end of the machine, and two rolls of cloth are coated simultaneously with perfect ease by one man, the coatings proceeding alternately from each end of the machine until completed. Each film of dough is thus spread the reverse way and calendered at the same time, any liability to porosity being thus removed. It is claimed that with this machine a smaller quantity of dough is used than under the old system, the saving effected being estimated at from 6/8 to 1¼ on each piece of 80 yards. Less labor is required, as there is no winding back or handling of the rolls after placing in the machine until they are completed. With regard to the construction of the machine inspected, which, it may be mentioned, was made for the Northern Rubber Co. (Retford), the two drying tables are each 20 feet long, which is found sufficient to dry well on passing the cloth at the rate of 8 to 10 yards per minute, and the gearing is so arranged that it can be worked as two single machines if so desired. The total length of the machine is 27 feet long and 10 feet wide over all, the rollers covered as usual with hard rubber being 72 inches in length by 10 inches diam-

DUNLOP RUBBER COMPANY.

HIGH TEMPERATURE VULCANIZATION.

ROWLEY AND WALMSLEY SPREADING MACHINE.

FIRE HOSE.

eter. At the luncheon, which was provided by Messrs. Iddon, Mr. J. E. Baxter, chairman of the Rubber Manufacturers' Association, spoke strongly on the desirability of the different members of the trade foregoing their inherent jealousy of one another. In the presence of increasing foreign competition, he said, it was of the utmost importance that they should sink personal interests and work together more harmoniously than had been the case in the past, their object being to maintain the supremacy of the trade as a whole. Such occasions as that, he thought, when they met on common ground to discuss the merits or demerits of new machinery, was a step in the right direction, and one that might be repeated with advantage. Other speakers included Mr. Thomas Rowley, Mr. Iddon, and Mr. H. L. Terry, but the limitations of space preclude further detailed reference to what was voted on all hands an instructive and enjoyable day.

ON the subject as to how far accuracy is obtainable in the analysis of complex rubber mixings much might be written, but the space at disposal in these notes precludes the introduction of the topic. There is one feature of the subject, however, on which it seems convenient to say a word or two, and this is with regard to the limitation of the utility of such analyses. Admitting that the analysis of a manufactured rubber article is correctly made by a competent authority, yet it is frequently found that those who wish to use the figures as a guide to manufacture a similar article frequently find themselves quite at sea with their results and not infrequently the blame for the fiasco is heaped upon the unfortunate analyst. The fact is that in all cases of manufactured goods, and perhaps especially so in that of rubber, the working details have an influence and importance often of the first magnitude, but which cannot by any means be detected in the ordinary course of analytical procedure. The analyst, if an expert, may probably arrive at sound conclusions as to the procedure followed in the manufacture, but in many cases this would be quite impossible and sins of omission cannot fairly be laid at his door, in the present incomplete state of our knowledge of rubber chemistry.

REFERENCE has been made previously in this correspondence to the sale by tender of India-rubber and Gutta-percha by the general postoffice. In the case of the admiralty, however, the bulk of material which has to be disposed of is nothing like so large as that of the postoffice, and it does not attract much attention. In contradistinction to postoffice procedure, the sale at the dockyards is not by tender, but by public auction, which is duly advertised, the old rubber being only one item in the miscellaneous assortment of old ships' stores which duly come up for sale on these occasions. A good deal of the rubber, it may be mentioned, is in no way decayed, being merely the fresh waste which results from cutting valves, etc., out of the large rectangular sheets which it is the custom of the admiralty to buy, though this particular waste is supplemented by valves and the like which have done service. With regard to Gutta-percha, there is never more than a small amount of this for sale, and no attempt is made, as in the case of the postoffice, to separate what is comparatively new and sound from what has become practically resin by oxidation. A man-of-war's stores include a small amount of Gutta-percha among the sundries, and this is often returned to the dockyard untouched. If the quantity for sale was larger it might be advisable for the officials to store it when awaiting sale in some position where it was not exposed to the full glare of sunlight, but in view of the cheerfulness with which the country votes millions for new arma-

ments it is rather out of place to insist on such very petty economies. One more difference between the admiralty and the postoffice may be mentioned, and this has reference to the old cables offered for sale. In the case of the comparatively small quantity sold by the admiralty, the cable is sold as it is, whereas the postoffice sell the metal core and the dielectric separately, which procedure is to the advantage of buyers who are interested in one or other of the materials and not as general dealers in all and everything.

IT seems probable that the near future will see the existing underground telegraph wires largely augmented, as owing to snowstorms and gales the overhead wires have suffered a good deal of late years, thus causing trouble and loss to business men. Some time ago a cable was laid from London to Birmingham insulated with paper by the British Insulated Wire Co., and this having proved a success, the system will be further extended, especially in exposed districts in the North of England. The general public have not up to the present evinced much curiosity or interest as to the means whereby telegraphic communication is carried on, but with the general introduction of the overhead system of electric cars into our cities there has arisen considerable agitation, in view of the fatalities which have occurred in Liverpool, for the general adoption of subterranean lines.

ANOTHER large ground sheet order is being tendered for as I write, thus making the orders for these goods given out since the South African war began up to the large figure of £800,000. I understand that as the result of long trials Dermatine has been adopted by the war department instead of vulcanized rubber for certain purposes in connection with the use of cordite in field artillery, the preference given to it being largely due to its unalterability when kept for a lengthened time in store or in hot climates.

THE state of affairs with regard to this company seems to be somewhat lamentable. So far the insurance people have shown themselves indisposed to pay the claims made on them and this has frustrated the intention of rebuilding the large part of the factory which was destroyed by fire, the company apparently having no available cash in hand. I hear also that Mr. Sgal and Mr. Coops, the managing director, have come under the censure of the shareholders and transmitted their energies to other spheres. It is somewhat matter for speculation as to what will be done with the patent rights of the ball making machine which, since Mr. Hille's patent was taken out, has been improved upon by Mr. Cox, late works manager at Eccles.

THIS branch is pretty brisk at the present time, especially in ladies' goods. Apropos of these it seems somewhat singular that, although a large business is done by British firms in Canada, the business with the United States is practically *nil*. Certainly in the double texture men's trade firms on this side cannot compete with the sort of proofing that is now in vogue in America, and which does not seem to merit the term rubber at all. In the case, however, of the single texture printed article it would seem as if the requisite amount of business enterprise would result in a good trade, as at the present time these goods are imported into the States from Canada, thus paying double profit.

I UNDERSTAND that this tire, which was recently the cause of litigation between the original patentees and the Dunlop company, is now the property of Mr. F. Reddaway, and that it is shortly to be manufactured on the large scale at one of the north of England rubber works.

SUBTERRANEAN
TELEGRAPHY.

WAR
OFFICE.

ECCLES
RUBBER
CO.

WATER PROOF
TEXTURE
TRADE.

WAPSHARE
TIRE.

RUBBER
ANALYSES.

OLD RUBBER
AT THE
GOVERNMENT DOCKYARDS.

THE ORIGIN OF THE HARD RUBBER INDUSTRY.

By Dr. Heinrich Traun (Hamburg).*

WHEN Charles Goodyear put his first samples of elastic hard rubber before the public in New York, during 1851, they aroused in the first place the interest of the then highly flourishing whalebone industry, on account of their qualities similar to those of whalebone. Among the most efficient whalebone manufacturers of that time was the world-wide known firm of H. C. Meyer, Jr., in Hamburg, founded in 1818. This firm in 1842 established under the name of H. A. Meyer (name of the eldest son of H. C. Meyer, Jr.), a whalebone factory in Jersey City, opposite New York, which in 1848 was transferred to Williamsburgh, Long Island. Early in 1852 the latter successfully negotiated—by means of Mr. Conrad Poppenhusen, who had entered the firm in 1843—with Charles Goodyear for a license for making hard rubber by his firm of Meyer & Poppenhusen.

As early as December 31, 1849, Charles Goodyear, through his brother, Nelson Goodyear, secured from the patent office at Washington, a caveat for hard rubber; on December 20, 1850, he filed his application for publishing, and on May 6, 1851, obtained the much contested, entirely insufficient first patent on hard rubber. With astonishing energy, and at considerable expense, Charles Goodyear manufactured almost all of the objects of daily use—no matter whether they could be made out of hard rubber to advantage or not—out of his material, viz.: the hard vulcanized India-rubber, believing his rights for the sole manufacturing to be completely covered by patents.

In spite of using his own fortune and that of his friends for advertising (the Great Exhibition in London of 1851 cost him about \$30,000, and that of Paris, in 1855, \$50,000) he did not succeed in arousing a far-reaching interest for his hard rubber. Only the above mentioned firm of Meyer & Poppenhusen acquired from him on March 22, 1852, a license for the manufacture of artificial whalebone, and on January 12, 1853, that of hard rubber combs. Not included at the beginning was the license for fabrication of dandruff or narrow combs; for the latter, however, a license was obtained on September 13, 1853. For the making of hard rubber whip handles Meyer & Poppenhusen obtained a license on January 26, 1854.

Meyer & Poppenhusen noticed at once that the process patented by Goodyear could not be exploited to advantage on a larger scale, either technically or financially. The molded objects were covered with talcum, vulcanized with steam apparatus in sand or plaster molds, and consequently presented a surface which was rough, brown or yellow, and impregnated with sand and other foreign substances, besides being uneven in hardness and firmness.

It was reserved to the brother of H. C. Meyer, Jr., from Hamburg, L. Otto P. Meyer, engineer and technical director of the plant of Meyer & Poppenhusen, in New York, to make the invention of Goodyear useful and generally applicable for rubber whalebone and rubber combs, by introducing the so-called "water hardening" and the use of tin foil and tin forms. His inventions were patented in Washington on December 20, 1853, and extended December 20, 1867; patented February 28, 1854, and extended February 28, 1868; patented April 4, 1854, reissued August 16, 1859, and extended April 4, 1868. They

formed for twenty-one years the only effective protection for the maintenance of the hard rubber monopoly in the United States, Goodyear's patents being untenable. Those who are more interested in the contests over the different hard rubber patents, are referred to the patent proceedings in the United States circuit court: Conrad Poppenhusen (representative of L. Otto P. Meyer) *vs.* New York Gutta-Percha Comb Co., 1858; Same *vs.* John Dixon, 1860; Same *vs.* Oscar Falke, Edward Simon, Frederick Simon, Charles Jenkins, Darius Banks, and Eberhard Faber, 1861 and 1862.*

By L. Otto P. Meyer's tinfoil patent—in other words, by the application of this metal, almost indifferent against sulphur, as a protection of the surfaces during vulcanization—a possibility was created, to mold hard rubber objects before vulcanization, to preserve the sharp contour lines unchanged during the heat of vulcanization, and to take the hard rubber in its characteristic deep-black color with metallic, glossy surfaces directly from the vulcanization apparatus. The covering of the objects to be vulcanized with tinfoil (or other adequate metal foil) or tin-moldings, rendered it possible at the same time to put them in water or a similar liquid, being a good heat-conductor, so as to obtain an even temperature during vulcanization and a uniform hardening of all objects in all of their parts.

Also in all other directions L. Otto P. Meyer and his firm of Meyer & Poppenhusen worked restlessly on the improving of the hard rubber industry. Continuously they experimented with new grades of rubber, different kinds of which appeared periodically on the market, and finally made the using of even the poorest rubber grades possible for their purposes by eliminating the resin, and by careful and peculiar cleaning. The origin of almost all the important auxiliary machinery of the hard rubber industry may be dated back to this period.

In such way the firm of Meyer & Poppenhusen in New York came in a position to put on the market as early as the close of 1852 the first really useful hard rubber whalebone and the first hard rubber combs, and in 1853 they provided the market with these fabrics on an extensive scale. The perspicacity of the owners of the firm of Meyer & Poppenhusen, as well as their long standing experience in the whalebone trade, very soon established the fact that the firmness and elasticity of hard rubber, especially under great changes of temperature were not adequate to cope with the genuine whalebone in a successful manner; but that the chemical and physical qualities of hard rubber made it an excellent material for the manufacturing of dressing combs, dandruff combs, children's combs, and other similar articles.

This knowledge led in 1853 to the formation of the far famed India Rubber Comb Co. in New York, the leading hard rubber comb factory in the world. They put out their productions first on the premises of Meyer & Poppenhusen. In 1854 this comb industry was transferred into the large factory at College Point, Long Island, which still exists, while up to the

*THE INDIA RUBBER WORLD library contains a volume comprising the printed record of another case—"H. B. Goodyear (administrator of Nelson Goodyear) and Conrad Poppenhusen *vs.* The New York Gutta Percha and India Rubber Vulcanite Co. *et al.*," decided in the United States circuit court in 1862, which appears to have been the final case in the long continued litigation over the hard rubber patents, establishing the validity of the issue to Nelson Goodyear.—THE EDITOR.

* From the *Gummi-Zeitung*, XV Jahrg., Nr. 12, pp. 196-197.

end of 1855 the vulcanized plates for the combs and for the artificial whalebone were made and furnished by L. Otto P. Meyer, in Newton, Connecticut.

Owing to the death of his father, Henry Ad. Meyer was obliged to return to Hamburg so as to assume the management of the factories over there, and Mr. Poppenhusen took part in the formation of the India Rubber Comb Co. in New York, while at the same time the firm of H. C. Meyer, Jr., inaugurated the fabrication of hard rubber whalebone in Hamburg, bringing into life in Harburg in 1856 the first German hard rubber comb manufactory, under the name of the Harburger Gummi-Kamm Compagnie (Harburg Rubber Comb Co.).*

As commercial manager, and after many changes in the *personnel*, H. W. Maurien joined the Harburg Rubber Comb Co., and as technical director, Mr. Buecking. The fabrication of hard rubber whalebone and of the various hard rubber articles (we only mention chiralurgical and electrical apparatus and articles, knife-handles, drawing and smoking utensils, etc.) was carried on in Hamburg by the firm of H. C. Meyer, Jr., and in course of time brought to great perfection.

At the beginning of the fifties Charles Goodyear, as far as can be ascertained, sold his English patent to the Scotch Vulcanite Co. in Edinburgh. The French hard rubber patent of Goodyear was fought and, after a prolonged lawsuit, cancelled, because somebody before Goodyear had produced a mass similar to hard rubber by dipping rubber into molten sulphur, and had patented the same. Then Goodyear himself visited Paris in 1852, assisting in the erection of several soft rubber factories there, introducing with them also the process of hard rubber making. Goodyear himself did not know at that time the invention of L. Otto P. Meyer, and hence the hard rubber industry began to develop in France many years later, after Germany had brought this fabrication to a state of prosperity. Similar was the case with the introduction of the industry in other European countries.

May it be given to Germany to remain in this respect the leading nation! To reach this end it will, however, be necessary, in the first place, that our manufacturers persist more than heretofore in their endeavor to work in the direction of quality and not to juggle with the prices among themselves and with foreign countries.

[NOTE—It may be of interest to read, in connection with the preceding article, a paper published in THE INDIA RUBBER WORLD April 1, 1898, on the "Development of the Hard Rubber Industry."—THE EDITOR.]

* This has grown into the important concern of which Dr. Heinrich Traun, a descendant of the Meyer family through his mother, and the writer of this article, is now the proprietor, and which has been described at length in the pages of THE INDIA RUBBER WORLD.—THE EDITOR.

THE NEW MEXICAN RUBBER.

IN a recent official report the United States consul at Matamoras, Mexico—P. Merrill Griffith—gives some interesting details regarding the new factory at San Luis Potosi, already mentioned in THE INDIA RUBBER WORLD as having been established for the extraction of rubber from a plant growing in the mountainous districts of Mexico. This plant has not yet been identified botanically by any of THE INDIA RUBBER WORLD'S correspondents, but Consul Merrill makes an interest-

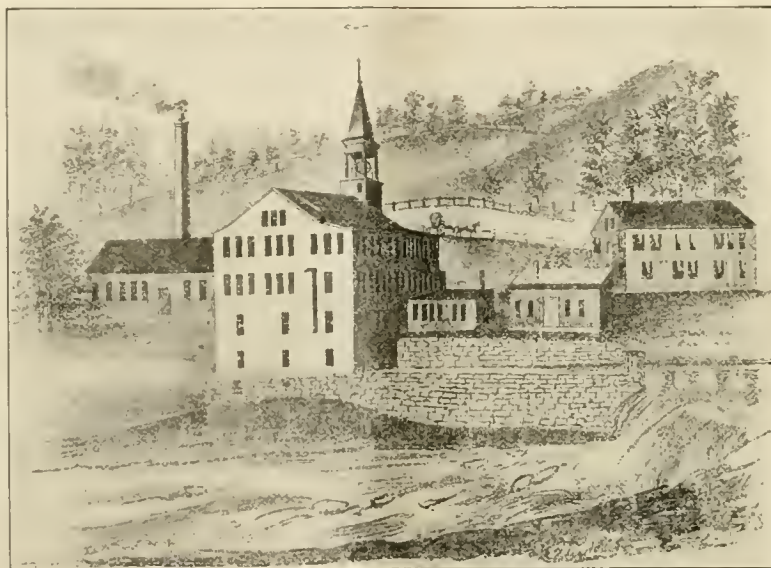
ing statement to the effect that it is found also "in certain localities of Texas, Wyoming, and Nebraska." The plant is known locally as "hule," but this is the name applied to the rubber tree generally in Mexico. In the patent issued to William Prampolini, however, covering the process for the extraction of the gum, the shrub is described as the *Synantheroeas Mexicanas*.

"The principal steps in the process of manufacture," writes Consul Merrill, "are as follows: There are special machines which feed the plant automatically into the cutters; after it comes out of these ma-

chines, it is carried by a bucket elevator and dumped into steam-jacketed mixing tanks, containing certain chemicals; the product then runs by gravity into hydraulic filter presses, after which it is subjected to a hydrostatic pressure of 75 pounds to the square inch; it is then conveyed into settling tanks, where the gum, being heavier, settles to the bottom, while the chemicals and residue are drawn off." The special machinery used was designed and has been patented by the Cia. de Fundicion de Fierro y Manufacturera de Monterey (Monterey Foundry and Manufacturing Co.).

A letter to THE INDIA RUBBER WORLD from Monterey says: "The 'hule' is a small, rugged, hardy, bushlike plant which grows to a height of three or four feet. The leaves on the plant very much resemble those of the sage brush. In some parts of Mexico the plant is ground on 'metates' or stones, with water running over it, and the gum or rubber is held together in a mass, while the addition of a little water removes the woody substance. This process, of course, is far from being a commercial success, for the reason that the product is not entirely cleaned, and for the further reason that only very small quantities can be produced in this way. The rubber thus obtained is very springy and elastic, and is usually rolled into balls, as playthings for children."

The plant above described no doubt is the same which Mr. John H. Cheever, of the New York Belting and Packing Co., experimented with, some twelve years ago. Mr. Cheever considered the rubber obtained from the plant to be equal to the best Centrals, but his experiments soon ceased on account of the expense of bringing the bark to his factories.



HARD RUBBER FACTORY OF MEYER & POPPENHUSEN.

[Located at Newtown, Connecticut. Occupied 1853-55. In 1863 purchased by the New York Belting and Packing Co. and remodelled as their "Factory No. 2." Destroyed by fire in 1887.]

REPRODUCED FROM THE "GUMMI-ZEITUNG."

PREPARATION OF RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Having read, under the heading of the "Coagulation of Latex," in your issue of January 1, Mr. Parkin's reply to my comments on his paper published in the *Annals of Botany*, I cannot see that he seriously traverses the several points I raised in my paper in THE INDIA RUBBER WORLD, October 1, 1900. In the first place, he admits the misuse of the word "pure," for *latex* as extracted from the tree, by explaining that it would be "understood by most readers." *Per contra*, he appears inconsistent when he makes objection to my use of the word "coagulation," as I have just as good a right to claim the understanding of the "general reader" as he has himself, and moreover I had anticipated the objection by pointing out a possible "confusion" as resting with him.

Again, Mr. Parkin makes an assertion in his reply to meet the point, which does not appear to cover the case; and for which, moreover, he has presented no evidence in support. He says: "In what way and to what extent the collected latex may have been contaminated by the surrounding tissues, are matters of conjecture only;" and yet he admits that some of the contents of the bark vessels "may find their way into the laticiferous stream." The extent of the contamination is, however, fairly well shown, when it can be proved that *Castilloa* fluids contain at least 75 per cent. of matter which is not rubber, as shown by Biffen. The laticiferous tissue having been found filled to distension with solid rubber, would also appear to prove that the greater part of the fluids are drawn from other sources, and not from this tissue.

It is true that the water conducting vessels need not be injured to obtain rubber fluids, but nevertheless they are generally so wounded, and the dilution thus made must be accounted for. Mr. Parkin accounts for it by offering an opinion, "that sugar and proteids may come from this source," but the difference in density is to be accounted for by the water contained in the laticiferous tubes themselves; thus showing that he allows the presence of water in the bark, while he apparently desires to show that the wood vessels must be pierced to obtain it. That the water which forms a part of all rubber fluids all comes from the laticiferous tissue is a point, proof of which is wanting.

Mr. Parkin further states that in his experiments "nothing was suggested which tended to the conclusion that the quantity of the coagulator required is in proportion to the amount of rubber to be coagulated" and yet in his paper in the *Annals of Botany* [p. 196] states that the quantity of acid needed "depends on the amount of pure *latex* present in the liquor to be clotted." How would the "general reader" understand the meaning of the words "pure *latex*," in this sentence? The Trinidad experiments show that rubber globules can be clotted, coagulated, coalesced, aggregated, fused, or massed together, when washed clean of proteid matter, and when suspended in water, by the addition of any medium which will rupture the globule itself, and the experiment has been performed again and again with unvarying success. Be the action "coagulation" or not, in the true scientific meaning of the word, I fail to see that any service can be rendered to the rubber industry by discussing the relative merits of words to be used for the clotting or fusing together of rubber particles, or the manner of the separation of a solid substance from the liquid in which it is usually suspended.

Besides, my comments on Mr. Parkin's work were chiefly to show that rubber would be better in quality, if prepared without coagulation, as understood by Mr. Parkin; for it is quite clear, from his own statements, that the material must be purer

when the rubber particles are massed together, fused, or coalesced, without the aid of, and independent of, proteids. Mr. Biffen in his paper uses the words "spontaneous coagulation" and records having observed this action taking place when *latex* was in contact with air: but was this "coagulation" according to Mr. Parkin, or was it merely the coalescence of the particles such as I record in my experiments? Or is Mr. Biffen also to be said to have used the word in a wrong sense? The fact remains that rubber globules can be clotted by alcohol when washed clean of proteid matter (except what they may themselves contain), and this method of binding them together is that referred to as the means by which probably the purest rubber could be obtained.

Rubber globules can also be massed together by nitric acid, the action of which is to completely clear the watery liquors by the massing or creaming of the rubber particles on the surface. The first washings of rubber fluids when cleared of the rubber particles, by creaming or centrifugal action, can be coagulated by acids, but the solid material is not rubber; and has nothing to recommend it, for mixture therewith, so far as can now be seen. By volume, this matter forms about .01 per cent. of our fluids, but the amount probably varies in different trees and in different seasons. The residual liquors or washings are not readily coagulated by the addition of alcohol. *Castilloa* fluids may be preserved for some time with formalin and the rubber globules can afterwards be quickly clotted with alcohol after washing.

Again, if rubber fluids are allowed to set up a natural fermentation in water, rubber is produced on the surface which is of good quality, and has the appearance of being tanned. The proteid matters appear to be destroyed and can be readily washed away. The substitution of the words "rubber fluids" for *latex* Mr. Parkin deems cumbersome, but this appears a matter of personal opinion only, and I think few people would be found to follow him, and call the red fluids of *Pterocarpus*, and a species of *Croton* which gives a liquid indistinguishable from blood, by the name of *latex* or milk; and besides their trade names of "Dragon's blood" and "Blood wood" would have to disappear from use, which is hardly probable. It is only fair to mention, as regards preparation or separation by centrifugal action, that even after this process has been used, it is necessary to mass or clot together the rubber particles, and the most ready way of doing this is with a small jet of alcohol.

I have to thank Mr. Parkin for his reference to the two paragraphs in my *critique* with which he is in agreement; but I would point out that I am in no respect responsible for the statements made in the *Tropical Agriculturist* to which he refers, respecting the production of rubber from young growths, which I have proved by actual experiment to be impracticable. Mr. Parkin states that the bursting of rubber globules is an open question, but has yet to prove it incorrect, and I recommend him to watch the behavior of the globules under the microscope when alcohol is applied to them.

Discussions of the matter of the field preparation of rubber must be of service now that the actual cultivation of rubber on a large scale is being attempted, and the subject is one which cannot be summarily disposed of in a few experiments. All work in this direction has until lately been only the crude and handy methods of the forest, which it is clear, on the score of economy, must give way to improved methods as the fields come into bearing; for it is in the prevention of waste where the cultivator finds points which will help him to compete with forest production.

J. H. HART,

Botanical Department, Trinidad, February 7, 1901.

LITERATURE OF INDIA-RUBBER.

MANUAL PARA LA EXTRACCION Y BENEFICIO DE LA GOMA ELASTICA. [Por] Nicanor Jordan S. La Paz: 1900. [Paper. 12mo. pp. 52, with plates and folding table.]

AS HEVEAS OU SERINGUFIRAS. INFORMAÇÕES POR J. BARBOSA RODRIQUES, Director do Jardim Botânico do Rio de Janeiro. Rio de Janeiro: Imprensa Nacional, 1900. [Paper. 12mo. pp. 86, with folding tables.]

THESE two brochures, one in Spanish and one in Portuguese, are alike in that each indicates, in the country of its origin, a growing interest in placing the collection of rubber under intelligent supervision, and a desire on the part of the government to forward such a condition. The Bolivian pamphlet is issued by the "oficina nacional de inmigracion, estadística, y propaganda geográfica," and that from Brazil, as its title indicates, from the government botanical garden. Both touch to an important extent upon methods of extraction and coagulation, and refer to cultivation as worthy of attention. The report by Senhor Rodriques includes a comprehensive summary of Pará rubber statistics since 1827. Both reports contain plates illustrating the various rubber species.

AU PAYS DU CAOUTCHOUC. PAR EUGENE ACKERMANN, INGÉNIEUR Civil des Mines. Rixheim: F. Sutter & Cie. 1900. [Paper. 16mo. pp. 61 + 3 photogravures. 1 50 francs.]

WHILE professionally employed at Pará, M. Ackermann gave careful study to the rubber situation on the Amazon, reaching the conclusion that, in spite of the immense area of the rubber territory, the great difficulty of obtaining labor will long prevent the production from keeping pace with the consumption. M. Ackermann urges the taking of steps to conduct the rubber gathering industry in a more scientific and sanitary manner, and advises THE INDIA RUBBER WORLD that he will undertake to locate some rubber concessions on the Amazon, in which work he solicits the coöperation of capitalists.

UBER KAUTSCHUKLIANEN UND ANDERE APOCYNEN, NEBST Bemerkungen über Hevea und einen Versuch zur Lösung der Nomenklaturfrage. Von Dr. Hans Hallier. Hamburg: Lucas Gräfe & Sillem. 1900. [Large 8vo. pp. 19-216 + 4 plates.]

THIS monograph, reprinted from the "Jahrbuch der Hamburgischen Wissenschaften Anstalten" (Band XVII, 1899), forms the most complete study yet attempted of the African rubber producing genus *Landolphia*, in the course of which the author attempts, by comparison of all the existing data, to catalogue the *Landolphia* species, of which more than twenty are named, to say nothing of the synonyms which have found their way into print, through the naming of identical species by different observers. The natural order *Apocynaceæ* embraces other rubber producers, including the *Corpodinus*, *Willoughbeia*, etc., but more especially the *Hevea* (Pará rubber tree), all of which receive more or less attention in this work.

THE Straits Settlements *Agricultural Bulletin* (No. 9—1900,) published from the botanic garden at Singapore, contains a catalogue of "Native Rubbers of the Malay Peninsula," which is fuller than any other that has yet appeared in print. The writer of the article thinks that the unfavorable verdict of the trade regarding some of the species named will be reversed when, under more intelligent supervision, better methods of extracting and coagulating the rubber are introduced.

IN CURRENT PERIODICALS.

RUBBER: Its Origin and Sources. By George T. Branch. [Read before the Pharmaceutical Society of Cape Town; reprinted from *The Pharmaceutical Journal*]=*The Pharmaceutical Era*, New York. XXV-7 (February 14, 1901.) pp. 172-174.

De West-Afrikaanse Caoutchouc Expeditie. By A. H. Berkhout, [Review of the report by the German expert Schlechter, mentioned in THE INDIA RUBBER WORLD February 1, 1901.]=*De Indische Mercur*. Amsterdam. XXIV-5 (February 5, 1901.) pp. 73-75.

Les Plantes a Caoutchouc Indigènes de la Péninsule Malaise. [From an article by Ridley in the *Agricultural Bulletin of the Malay Peninsula*; catalogue of eleven vines and two trees, yielding rubber.]=*Revue des Cultures Coloniales*, Paris. VIII-71 (February 20, 1901.) pp. 108-111.

Untersuchung Guttaperchaähnlicher Stoffe aus Südamerika=*Der Tropenpflanzer*, Berlin. V-2 (February, 1901.) pp. 89-91.

La Nature de la Coagulation du Caoutchouc. By J. H. Hart. [Reprinted from THE INDIA RUBBER WORLD, October 1, 1900.]=*Revue des Cultures Coloniales*, Paris. VIII-70 (February 5, 1901.) pp. 81-85.

The Outlook for the Submarine Cable Industry in the Twentieth Century. By Charles Bright, F. R. S. E. [Considers a great increase in the extent of ocean cables in the near future certain, including an all British Pacific cable]=*The Electrical Review*, London. XLVIII-1207 (January 11, 1901.) pp. 47-48.

Notes sur un Nouveau *Landolphia* de l'Etat Indépendant du Congo—*Landolphia Laurentii* (De Wild). By Dr. E. De Wildemann=*Revue des Cultures Coloniales*, Paris. VIII-75. (April 20, 1901.) pp. 229-231.

Reisebericht der Guttapercha- und Kautschuk Expedition nach den Südsee-Kolonien. By R. Schlechter=*Der Tropenpflanzer*, Berlin. V-5. (May, 1901.) pp. 211-220.

Quelles sont les Plantes qui produisent les divers Caoutchoucs du Congo? By Dr. E. De Wildemann=*Bulletin de la Société d'Etudes Coloniales*, Brussels. VIII-4 (April, 1901.) pp. 256-266.

Le *Ficus Elastica* en Annam. By Jaquet, directeur de l'agriculture. [History of its introduction, experiments in cultivation, results of collection; illustrations of implements. Reprinted from *Bulletin Economique de l'Indo-Chine*]=*Revue des Cultures Coloniales*, Paris. VIII-74, 76 (April 5, May 5, 1901.) pp. 218-221; 279-282.

Rubber. By H. E. Armstrong. [Illustrated article on sources and methods of obtaining the raw material and its manufacture in the United States.]=*Ainslie's Magazine*, New York. VII-4 (May, 1901.) pp. 326-334.

Guttapercha aus Mittelamerika. By Dr. Paul Preuss. [Describes product of *Tabernaemontana Donnell Smithii*; with plate.]=*Der Tropenpflanzer*, Berlin. V-3 (March, 1901.) pp. 101-105.

Les Productions Végétales Naturelles de la Région des Betsimisarakabetanina (Madagascar.) By Captain Jeannot. [Including references to Caoutchouc yielding plants and native methods of extraction.]=*Revue des Cultures Coloniales*, Paris. VIII-72 (March 5, 1901.) pp. 134-142.

Apontamentos sobre o Caucho Amazonica. By Dr. J. Huber.=*Bolletim do Museu Paraense*, Pará. III-1 (February, 1900.) pp. 72-87.

OTHER PUBLICATIONS RECEIVED.

THE HARMFULNESS OF BUSH FIRES. BY DR. H. A. ALFORD NICHOLS, C.M.G., M.D., F.L.S. Issued by the Commissioner of Agriculture. Barbadoes: 1901. [Paper. 16mo. 29 pp.]

THE subject of this paper is one which will appeal to the interest of rubber planters on a large scale, many of whom are surrounded by conditions which render them liable to danger from fires of the character referred to by Dr. Nicholls.

LA RAMIE. CULTURE, PREPARATION, UTILISATION INDUSTRIELLE. Compte Rendu in Extensio des Séances du Congrès et du Concours International de la Ramie, Juin-Octobre, 1900. Paris: Bureau de la *Revue des Cultures Coloniales*, 1901. [Large 8vo. pp. 108. Price 4 francs.]

AN international "ramie congress" was held at Paris, in connection with the exposition last year, at which was discussed a variety of questions bearing upon the utilization of this interesting fiber, a complete report of the whole being collected in this volume, together with illustrations of apparatus for treating ramie. An introduction is from the pen of M. Maxime Cornu, professor in the Museum d'Histoire Naturelle, who presided at the congress.

ANNUAL Report of the Wire Department for the Year 1900. Boston: 1901. 8vo. 51 pp.+maps+plates.

Twenty-third Annual Report of the Bureau of Statistics of Labor and Industries of New Jersey. Year ending October 31, 1900. Camden: 1901. 8vo. 329 pp.+plates.

Annual Report of Royal Botanic Gardens for the year 1900. By J. H. Hart, F. L. S., Superintendent. Trinidad: 1901, Folio. 23 pages.

NEW GOODS AND SPECIALTIES IN RUBBER.

WIND AND WEATHERPROOF CLOTHING.

THESE goods are not offered as mackintoshes, but are coated thoroughly with a good grade of rubber, which renders them impervious to cold, penetrating winds. The cloths are as nearly waterproof as the ordinary



grade of mackintoshes. This new line of goods is made up in a wide variety of styles, and in different cloths, at varying prices. The illustration shows a suit composed of a heavy covert double breasted jacket and trousers, for workmen's use. The material is a heavy quality of cotton duck, proofed with rubber, with a heavy napped wool lining. The goods are rendered "wind proof" by an interlining, also of wool, proofed with rubber. The jackets of the style shown in the cut are intended to retail at \$2 and the trousers at a relatively low figure. These new garments are evidently of a durable character, and have met a very heavy sale. Some other styles besides that illustrated in this cut are men's heavy wool ulsters, heavy wool pea jackets, men's top coats, and boys' heavy covert top coats. The coats are manufactured by the American Rubber Co. and sold in New York by William Morse & Co., No. 72 Reade street.

"UNIVERSAL" RUBBER VEHICLE TIRE.

THIS tire is adjusted to the wheel directly over the steel tire, and dispenses with the channel iron which other rubber tires require. In case of an accident to the rubber tire while on the road, there is always the steel tire to fall back upon, so that the traveler may proceed without injury to the wheel. No



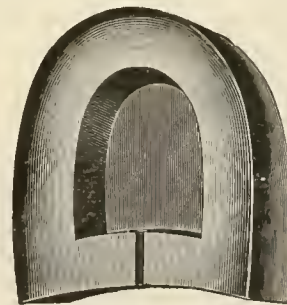
channel iron being used, a wider tread is obtained, which gives a lighter draft, especially through mud and sand. Furthermore, the absence of the channel iron lessens any tendency to sand and mud throwing, and also obviates the extreme "dish" which a heavy channel iron causes on light wheels and which to many eyes is unsightly. With the "Universal" tire there is

no possibility of puncture, and it may be placed upon high wheels, which overcome better than low ones the effects of inequalities in the road. Should this tire become injured, it will be necessary only to procure a short section of rubber to replace the damaged part. All the appliances needed for putting on the "Universal" tire are a double-pointed bradawl, a hammer, and double-pointed brads or staples. The tire can be put on at home, instead of having to send it away to a tire shop, perhaps at a distance. The "Universal" tire is made in strips seven feet long. The larger cut shows the general appearance of the tire, with the brads driven through its edges into the wheel felloe to hold it in the place; the smaller cut shows a section of an inch tire. [Boston Belting Co., Boston.]



THE "MONARCH" RUBBER HEEL.

THIS new heel, for which patents are pending, possesses a novel feature in construction which makes an air cushion of it. A hollow in the heel lightens the weight and gives greater elasticity to the tread. A small opening at the top of the heel, where the heel is fastened to the shoe, allows the air to be



pumped in and out as the wearer walks. Both the hollow in the heel and the vent at the top are shown in the second of the illustrations which accompany this description. It should further be mentioned that the "Monarch," being a whole heel, requires no leather rand to aid in adjusting it to the shoe.

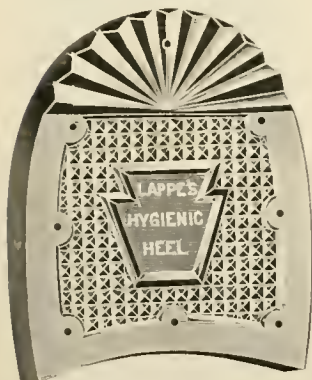
Attention is called by the manufacturers to the quality of the material used in these heels, in consequence of which they do not chip. The entire heel is made of the same grade of stock, and the edge takes on a burnish like a leather heel. This heel is made by the Monarch Rubber Co. (Brockton, Mass.), who long have been identified with the manufacture of rubber cement for use in the leather shoe industry.

A NEW RUBBER HEEL.

WILLIAM W. COMINGOR (Danville, Indiana) has obtained a patent [No. 663,865] for a new rubber heel for leather shoes, his invention consisting in embedding a plate of peculiar form and arrangement within an otherwise solid rubber heel as a bearing plate for nail heads to draw upon for attaching the heel to a sole, the plate being adapted to cause the heel to fit closely at its edges to the sole and prevent uneven bulging of the sides of the heel, and thus

avoid refinishing after securing the heel. The plate referred to is preferably stamped out of thin sheet steel, and has a horseshoe like contour, the circumferential dimensions of the plate being slightly less than that of the heel. The plate is perforated for nails. The plate may also be formed with a series of pins or studs, adapted to extend from the plate to the bottom or wearing surface of the rubber heel, in a semicircle at the back of the heel, to protect the rear part from excessive wear. Mr. Comingor is desirous of making arrangements for the manufacture of the new heel.

LAPPE'S STANDARD HYGIENIC HEELS.

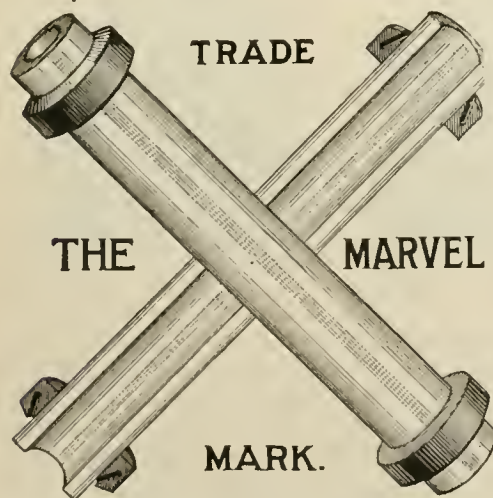


wholesale leather, Pittsburgh, Pennsylvania.]

THIS is a view of a new rubber heel for leather shoes, the principal claims for which are (1) that it will not carry dirt; (2) that it is reinforced at wearing points; and (3) that the method of applying nails will prevent injury to floors and carpets. Special attention is called by the manufacturers to the quality of the material used in this heel, it "being the same stock as is used in the manufacture of carriage tires." [H. A. Lappe & Co.,

SELF PACKING RING FOR GAGE GLASSES.

THIS patented packing ring—of which both a general and a section view are shown in the illustration—is worked by the boiler pressure. It is so constructed as to conform readily to



the position of the glass tube without wrenching or twisting the ends of the same, thereby obviating all danger of breaking the glass tubes when connecting or replacing them. A wrench is not required in applying this ring; the nut is simply screwed up with the thumb and finger until a good bearing has been secured on the bottom or beveled side of the ring. Then the valve can be opened and the ring will take care of itself. [The La Favorite Rubber Manufacturing Co., Paterson, New Jersey.]

THE BAYONET CLIP FOR ATOMIZERS.

PHYSICIANS, who are perhaps as intelligent users of atomizers as anybody, have long complained of the time that it takes to remove any form of top from a bottle and attach it to another, a common method being of course that of screwing and unscrewing. The Davidson Rubber Company have obviated this difficulty in an exceedingly simple and effective manner, using instead of the hard form, a Bayonet Clip, which with the correct turn is made perfectly fast, so that a top or pipe can be released in a fraction of a minute.

NEW FEATURE IN SLOTTED SCREW TIPS.

IT has not been an unusual experience, with users of slotted screw tips, to have the rubber heads pull off the screw. A new feature in the construction of such tips has been introduced, being a patented perforated countersunk disk, of which illustrations are presented herewith, and the use of which makes it impossible for the rubber head to pull off. The construction of the disk being countersunk allows the head of the screw to imbed itself in the disk, so in case the tip is worn down it will present a perfectly smooth surface and do no damage. On account of the disk and the screw being molded clear to the bottom of the tip, it gives about 1/16 inch more wear than any other slotted screw tip, all of which have an ordinary oval headed iron screw on which the rubber will not unite. An additional point of interest to the trade is that these patented tips are sold at the same price as the tips hitherto on the market. [The Elastic Tip Co., No. 370 Atlantic avenue, Boston.]



MINOR MENTION.

NOTHING perhaps shows the German ability to make excellent hard rubber goods better than a flexible hard rubber tube which is now being placed on the market by George Borgfeldt & Co. (New York). This tubing is black, nicely finished and exceedingly dense, and yet can be bent into almost any shape without breaking.

RUBBER INDUSTRY IN NEW JERSEY.

THE twenty-third annual report of the bureau of statistics of labor and industries of New Jersey—in which state the Massachusetts system of such statistics has been adopted—contains the following details regarding the India-rubber industry for the year 1899. The returns cover 33 establishments which are believed to represent practically the whole industry in New Jersey:

Total capital employed.....	\$6,700,548
Total value of materials used.....	\$8,205,344
Crude rubber.....	\$4,742,778
Scrap rubber.....	684,352
Other materials.....	2,778,214
Total amount paid in wages.....	\$1,739,918
Total selling value of products.....	\$12,441,996
Boots and shoes.....	\$1,904,961
Rubber tires.....	549,410
Reclaimed rubber.....	871,559
Other rubber goods.....	9,116,036
Number of private firms.....	2
Number of partners.....	4
Number of corporations.....	31
Number of shareholders in corporations.....	356
Number of female shareholders.....	75
Average capital invested by partners.....	\$50,000
Average invested by shareholders.....	\$18,260
Average capital per factory.....	\$203,047
Average materials used per factory.....	\$248,644
Average products per factory.....	\$377,030
Average wages paid per factory.....	\$52,725
Smallest number of employes.....	3,619
Largest number of employes.....	4,296
Total average number of employes.....	4,034
Average number of male employes.....	3,312
Average number of female employes.....	722
Average number of employes per factory.....	122
Average earnings per year per employe.....	\$431.31
Average number of days in operation.....	280.27
Average hours of work per day.....	9.07
Proportion of business done to capacity.....	81.97 per cent.

A comparison of returns on a similar basis, but from a smaller number of establishments, for 1898, shows an increase in capital, materials used, goods produced, and rate of wages.

“RUBBER GOODS” ON THE STOCK EXCHANGE.

THE stocks of the Rubber Goods Manufacturing Co. were on May 1 admitted to quotation in the unlisted department of the New York Stock Exchange. The amount of stock outstanding on that date was—

Preferred, 80,514 shares.	\$ 8,051,400
Common, 109,417 shares.	16,941,700
Total.	\$24,993,100

The distinction between “listed” and “unlisted” stocks is almost without a difference. When the stock of a corporation has been “listed,” the issue cannot be increased—if the stock is to continue on the list—without the approval of the authorities of the Stock Exchange, involving certain formalities, and possibly delay. The Rubber Goods Manufacturing Co., under their New Jersey charter, are authorized to issue \$50,000,000 in shares, and as they probably expect to acquire additional properties, for which new stock will have to be issued, they will be saved some trouble by not being “on the list.” They can make application to have the stock listed when the enterprise has been fully developed. The same course was pursued by the United States Rubber Co., which had issued not more than one-fourth of their authorized capital of \$50,000,000 when, on November 18, 1892, their stock was admitted to the unlisted department of the Stock Exchange. Subsequently, when there had been further issues, this became a “listed” stock. The same has been the history of the American Sugar Refining Co., the National Lead Co., the American Tobacco Co., and so on. There is involved no discrimination whatever against the “unlisted” stocks.

In making application to be admitted to quotation on the Stock Exchange, the officers of the Rubber Goods Manufacturing Co. made a statement of the condition of the business of the company, in which the following details appear:

The properties controlled are not owned in fee by the Rubber Goods Manufacturing Co., except as hereinafter specified, but are held through the stocks of the respective companies. Seventy-five per cent. of Morgan & Wright and the entire capital stocks of the other companies named below are owned by the Rubber Goods Manufacturing Co., with the exception of a few shares of the Mechanical Rubber Co. and such other shares as are necessary to qualify directors, on which options are held.

NAME AND LOCATION OF PLANTS.

	CAPITAL.
The Mechanical Rubber Co.	\$4,843,275
<i>Owning the Following Properties.</i>	
The Chicago Rubber Works (Chicago, Ill.)	
The Cleveland Rubber Co. (Cleveland, Ohio)	
[Both acquired in fee simple by the Mechanical Rubber Co.]	
The New York Belting and Packing Co., Limited, (Passaic, N. J., and Sandy Hook, Conn. Capital outstanding £426,000 (= \$2,130,000.)	
The Fabric Fire Hose Co. (Warwick, N. Y.) Capital outstanding \$100,000.	
The Stoughton Rubber Co. (Stoughton, Mass.) Capital outstanding \$200,000.	
Morgan & Wright, Incorporated (Chicago)....	500,000
The Peerless Rubber Manufacturing Co. (New Durham, N. J.)	1,000,000
The India Rubber Co. (Akron, Ohio).....	100,000
The Hartford Rubber Works Co. (Hartford, Conn.)...	200,000
The Indianapolis Rubber Co. (Indianapolis, Ind.).....	25,000
The American Dunlop Tire Co. (Belleville, N. J.)....	77,300
The New Brunswick Tire Co. (New Brunswick, N. J.)....	250,000
[Occupies property owned in fee by the R. G. Mfg. Co.]	
The Sawyer Belting Co. (East Cambridge, Mass.) ...	35,000
[Occupies leased property.]	
Total capital outstanding.	\$8,030,575

BONDED INDEBTEDNESS.

The Rubber Goods Manufacturing Co. has no bonded indebtedness. The bonded indebtedness in companies in which it has an interest is shown below:

The Mechanical Rubber Co.	\$ 845,500
Total bond issue to March 8, 1901	\$1,040,500
Less bonds cancelled	195,000
The New York Belting and Packing Co., Limited.....	552,415
Total bonds issued	\$1,091,250
Less bonds cancelled.....	\$235,710
Less bonds held by trustee against equal number of bonds of Mechanical Rubber Co.	303,125 538,835
The American Dunlop Tire Co. (mortgage).....	19,000

Total bonded indebtedness. \$1,416,915

The statement from which these details are quoted embraces the balance sheet showing the condition of the Rubber Goods Manufacturing Co. on February 1, 1901, the same being a part of the treasurer's annual report [see THE INDIA RUBBER WORLD, March 1, 1901—page 175.] Also, the statement of dividends paid since that date. The statement continues:

“At this date unentered liabilities exist in the form of guaranties upon 4270 shares of preferred and 1357 shares of common stock issued as a part of the consideration paid for certain properties acquired by this company. The difference between the amount guaranteed to be realized upon the said stock and the present market value of the shares, taken at 85 for the preferred and 35 for the common, amounts to about the sum of \$67,000. The above are the only guaranties of this company outstanding, as those which were given to the American Bicycle Co. have been cancelled by the payment of \$120,000 in cash.”

The latter statement recalls that in August, 1900, the American Bicycle Co. offered for sale to its stockholders 11,500 shares of the preferred and 23,000 shares of the common stock of the Rubber Goods Manufacturing Co., at the rate of 80 for the preferred and 30 for the common shares. These shares were understood to represent, in part at least, the purchase price of the Hartford Rubber Works Co. and other tire manufacturing properties bought several months before by the Rubber Goods Manufacturing Co. from the American Bicycle Co. The call for subscriptions for these shares said:

We have an agreement with the Rubber Goods Manufacturing Co. by which they agree to pay us par for the preferred stock at any time, at their option, within two years from November 9, 1899.

At the same time President Coleman, of the American Bicycle Co., was reported by the *Wall Street Journal* as follows:

The Rubber Goods Manufacturing Co. is obliged to redeem the preferred stock which we took in part payment in November, 1901, at par, while it was guaranteed to pay 4 per cent. annually, or the equivalent, on the 23,000 shares of common stock for a period of five years, the guarantee being subject to conditions upon transfer of the stock.

The following is a record of transactions in Rubber Goods shares on the New York Stock Exchange:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 4. . .	35,000	38 1/4	31 3/8	4,702	90	86
Week ending May 10. . .	10,285	37	28	3,000	86 1/4	80
Week ending May 18. . .	6,225	32 5/8	30	580	82	80 1/8
Week ending May 25. . .	5,100	34 1/2	32	375	83	82 1/2

The first quotations published, February 25, 1899, in the reports of curbstone trading in New York, were: Rubber Goods Manufacturing, 30 bid; 31 asked. Preferred, 80 bid; 81 asked.

THE RUBBER PLANTING INTEREST.

REPUBLIC DEVELOPMENT CO.

[Plantation "La Republica," state of Oaxaca, Mexico. Offices: Park Row building, New York.]

THERE have been some changes in this organization, due to the introduction on its board of William H. Robinson, vice president of the International Gas Engine Co. (New York), who becomes president of the Republic company. Robert B. Baird, of the Boston rubber trade, is vice president; Byron E. Carl, long associated with the Mutual Life Insurance Co. of New York, is secretary; and Maxwell Riddle, treasurer. Mr. Riddle is the owner of a rubber plantation in Mexico, as also are two other members of the board—Wyndham R. White, now a resident of Washington, D. C., after several years residence in Mexico, and A. G. Weiss, formerly of Chicago, and now of Huimanguillo, Mexico, who has 100,000 rubber trees planted on private account. The plantation superintendent is G. A. Tucker, of Tuxtepec, Mexico.

ISTHMUS PLANTATION ASSOCIATION OF MEXICO.

[“Hacienda del Corte,” district of Juchitan, state of Oaxaca, Mexico. Office: Milwaukee, Wisconsin.]

NOT incorporated. Organized to grow tropical products generally, including rubber, on a 10,000 acre tract at Palomares, near the Coatzacoalcos river, beyond the Dos Rios estate, as the river is ascended. Have been at work two years and hope within eighteen months more to begin paying dividends from other crops than rubber. The principal planting to date has been coffee. Cecelio Oest, the plantation superintendent, on January 1 had 10,000 rubber plants set, with 30,000 in the nursery. Cacao is to be planted with the rubber. The company offers shares of stock, each representing two acres to be planted, at \$300 each, payable in monthly instalments. The Chicago Title and Trust Co. are trustees for the shareholders.

PACIFIC RUBBER CO.

[Plantation in the department of Soconusco., state of Chiapas, Mexico.]

INCORPORATED under Maryland laws, May 9, 1901; capital \$1,000,000, in \$10 shares. President and treasurer, George Surburg, president Independent Match Co., New York; Secretary, B. Franklin Bernstein, silk manufacturer, Hallstead, Pa.; Manager, Luiz Velez Arriaga, C. E. Tapachula, Mexico; Superintendent, Charles G. Cano; C. E., Oakland, Cal. Stock is being offered by the United Securities Co., No. 66 Broadway, New York.

MEXICAN PLANTATION CO. OF WISCONSIN.

ARTICLES of incorporation filed April 18 at La Crosse, Wisconsin; capital, \$700,000, divided equally into 6 per cent. cumulative preference and common shares. Incorporators: M. Funk, A. Platz, R. R. Schaettle, J. I. Lamb, Charles E. Seiter, and William F. Funk, of La Crosse, and Evan L. Buck, of Mexico city. Mr. Beck is the plantation manager. The plantation is on the isthmus of Tehuantepec.

RUBBER PLANTING IN SOCONUSCO.

THE Soconusco Rubber Plantation Co., incorporated under California laws October 16, 1900, to develop a plantation in the Soconusco department in the state of Chiapas, in the extreme southern portion of Mexico., was organized by Mr. Charles G. Cano, C.E., who is its general manager. The company own 17,858 acres and are preparing to plant rubber on an extensive scale. They expect to ship considerable rubber this year from

native trees on the property. This property is near the estates of La Zacualpa Rubber Plantation Co., comprising 18,791 acres, and which has been mentioned several times in THE INDIA RUBBER WORLD. This company, besides planting largely on their own account, have acquired a plantation formed ten years ago or more, from which some rubber has been shipped. In the same region is the rubber estate Los Cerritos, on which 40,000 trees were planted eleven years ago, and which was sold recently by Rafael Ortega to Louis Tomalen for a large sum. Still another enterprise there is the Dona Maria Rubber Plantation Co., with 5288 acres, owned by F. A. Quimby. Mr. Cano, mentioned above, has also interested eastern capitalists recently in forming the Pacific Rubber Co., for planting rubber, which has just been incorporated under Maryland laws. Mr. Cano is interested in the sale of other lands, on a large or small scale, suited for rubber planting, either alone or in connection with other crops, and may be addressed for the present in care of THE INDIA RUBBER WORLD.

It is in this department, by the way, that the late Mexican ambassador, Señor Romero, made a rubber plantation in 1873. Some of the trees then planted still survive, in spite of long neglect, and rubber gathered from them formed a part of the Mexican exhibit at the Paris Exposition of 1900. The identical lands are now under control of Mr. Cano.

RUBBER PLANTING IN SELANGOR.

THE eighth annual report of the Selangor Planters' Association, for 1900, issued from Klang, in the Malay peninsula, states that "the planting of rubber has to some extent taken the foremost place in the attention of planters," whose main crop now is coffee. During the year 1,146,870 Pará rubber seeds, imported or from local sources, were planted in the field or in nurseries. Of the local seed, 75 per cent. germinated. Seeds from Ceylon did not do so well, "but as, hitherto," the report says, "we are indebted to Ceylon for a large percentage of the rubber now flourishing in Selangor, we hope this will not occur again." The termite (a white ant) has given the planters some trouble. Of the *Ficus elastica* rubber, 52,147 plants were set out. A sample of cultivated rubber of this sort (Assam rubber) sent to London sold at 3s. 6d. (=84½ cents) per pound. "There seems to be a tendency to extend the cultivation of *Ficus elastica*," though Pará rubber has received the most attention hitherto.

VENEZUELA.

A CONCESSION of valuable rubber lands on the Orinoco—extending seven miles on either side of the river, from the mouth of the Guanini to the junction of the Casiquare arm with the Orinoco—has been made in perpetuity to Señor Don Maximiliano Guevera, in consideration of the annual payment to the government of 400 bolivars (= \$77.20). Free navigation is permitted to the concessionaire, who is obligated not to transfer his franchise to any foreign government.

PLANTING "LANDOLPHIA" IN AFRICA.

THE Compagnie Anversoise des Plantations de Lubefu, formed in Belgium in 1897 to trade in Africa, with 600,000 francs capital, and which have been shipping considerable rubber from the Congo, are reported in *Congo Belge* as having commenced a plantation of *Landolphia* rubber vines on the river Lubefu, to cover 1000 hectares (=2471 acres), besides which the company have an option on 4000 hectares more, for the same purpose.

JAPANESE RUBBER MACHINERY.

THE Japanese have long been known as the Yankees of Asia, and they have very well deserved the name, for they are notable for both enterprise and ingenuity. There are a number of rubber factories running there to-day, one of the first of them being established by a Japanese, whose only knowledge of India rubber or rubber machinery was derived from very incomplete descriptions found in various encyclopædias. Nothing daunted, however, this enterprising oriental built a mill, designed his own machinery, and to-day is manufacturing rubber goods. The two illustrations accompanying this, show a washer and a mixing mill now used in this factory. It will be noted that the rolls in the mixer are unusually large, nor is there, apparently, any arrangement for heating or cooling them. It, would, however, be perfectly possible to mix on such a machine by heating the rubber first and allowing it to run until the mill itself got warmed up a little. Later Japanese manufacturers have placed their orders for machinery in Germany and in the United States.

THE NEW MILL AT YOUNGSTOWN.

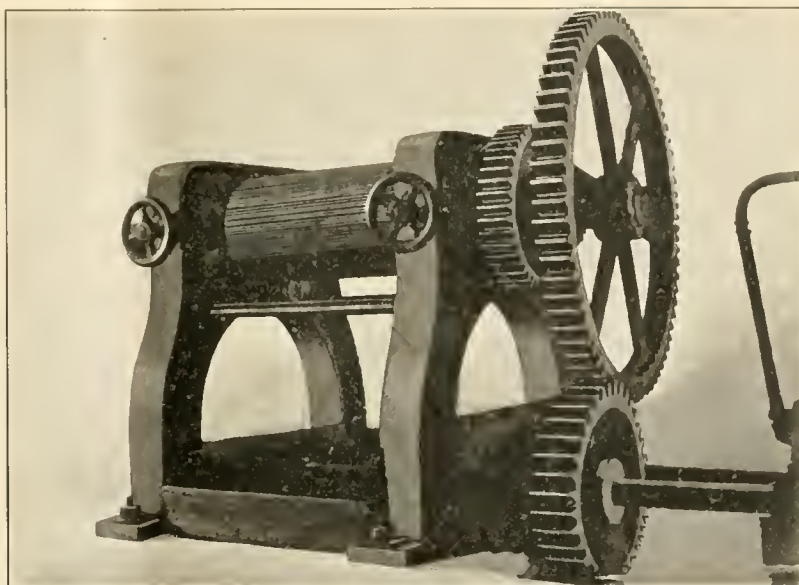
THE Mahoning Rubber Manufacturing Co. (Youngstown, Ohio) are installing a plant for the manufacture of rubber belting, hose, packings, automobile and vehicle tires, molded goods, and a complete line of mechanical rubber goods, which is designed to be the most up-to-date of any mechanical rubber factory yet built. The machinery will all be new and of the latest and most effective designs.

Cheap power, absolutely new machinery of the best makes, combined with modern ideas of arrangement—all will make possible the most economical production.

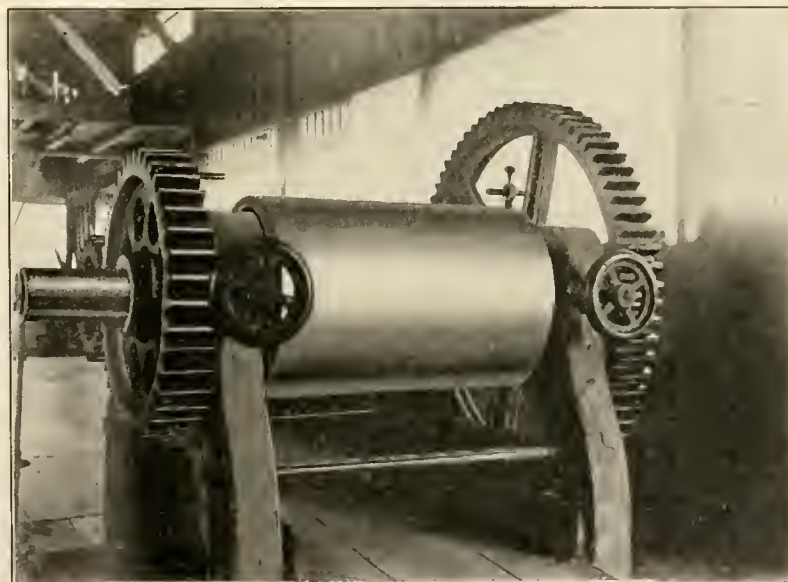
Economical production of goods means low prices to buyers and economical production can be obtained only by the use of the most modern machinery systematically planned and superintended by men of experience. The capacity of the plant, when completed, will be \$2,000,000 of manufactured goods annually. Thirty acres of land with the best water facilities have been acquired, thus allowing for future increase. The freight and shipping facilities are unsurpassed, insuring quick delivery of goods to any part of the country. Express orders can be delivered to New York or Chicago in one night, which means much to buyers of rubber goods.

While the plant is entirely new, the management is composed of reliable men, thoroughly experienced in rubber mill construction. The manufacture will be under the supervision of John S. McClurg, well known through his connection with the technical branches of the best concerns in this country and Germany. He will be assisted by the best and most experienced foremen obtainable for the various departments.

The sales department will be under the management of J. Edwin Davis, so many years connected with the Boston Woven Hose and Rubber Co., and who is well and favorably known to purchasers of rubber goods. He will be assisted by the best experienced salesmen that money can obtain to cover the several



JAPANESE RUBBER WASHER.



JAPANESE RUBBER MIXING MILL.

territories. Any inquiries concerning positions or agencies should be addressed to the company at Youngstown, Ohio.

MR. FLINT AND HIS AUTOMOBILE.

NASSAU street at midday is so congested that it is not an easy task to guide a cab through it safely. The narrow sidewalks are so inadequate for the lunch crowd that pedestrians overflow into the roadway. A light automobile entered Nassau street shortly after noon on Wednesday and attracted attention by the skill with which it was guided. The man who directed it steered it around cabs and delivery wagons, avoided pedestrians skillfully by sharp turns and kept up an animated conversation with a young man who sat beside him. He was absolute master of the machine and he ran it through openings that seemed to be hardly wide enough for a bicycle. Several people stopped to watch this automobile's winding passage down the street, expecting to see it come to grief. Here and there the man who ran it recognized an acquaintance on the sidewalk. He was Charles R. Flint.—*New York Sun*.

NEW TRADE PUBLICATIONS.

THE B. F. GOODRICH CO. (Akron, Ohio) send us a catalogue of "Palmer tires," the use of which, according to an assertion on the outside title page, "make all wheels high grade." This may properly be called a high grade catalogue, and it cannot fail to make a good impression in favor of "Palmer" in the minds of any who may hear of these tires for the first time through its pages. [6½"×7". 16 pages.] Another illustrated catalogue from the same house is devoted to "Goodrich Rubber Toys"—a comparatively new line which is coming into much prominence. [5"×6". 16 pages.]

BOSTON BELTING CO. have issued their first tire publication, entitled "Rubber Vehicle Tires," copyrighted April, 1901. It relates to, and fully describes and illustrates, the "Universal" rubber vehicle tire, patented, and also the "Imperial" vehicle tire, which is of the popular wired on type of construction. [3½"×6". 12 pages.]

G. & J. TIRE CO. (Indianapolis, Indiana) send us a new edition of the pamphlet describing their "Detachable Tires," having an entirely new cover design which is very attractive, while the interior of the booklet is both attractive as to the illustrations and readable as to the description of the tire and the method of its construction. [4"×6½". 16 pages.]

THE LA FAVORITE RUBBER MANUFACTURING CO. (Paterson, New Jersey) have issued a new illustrated catalogue—their seventh—of "Perry's Packings" and the other rubber goods manufactured by them, including steam hose, gaskets, packing rings for water gage glasses, valves, landing mats, etc. [3½"×6¾". 20 pages.]

THE BOOMER & BOSCHERT PRESS CO. (Syracuse, New York) have issued a new catalogue, in which are illustrated and described a large number of different styles and sizes of hydraulic and other presses of their manufacture. For many years they have devoted special attention to the supplying of presses for rubber work, and they have filled orders, probably from every rubber factory of importance in the country. [5¾"×8¾". 102 pages.]

B. F. STURTEVANT CO. (Boston) issue a pamphlet [Catalogue No. 108] entitled "Who Uses Mechanical Draft?" which question is answered with a long list of factories in which the Sturtevant system is employed, including several of the largest rubber factories in America. [6½"×9". 33 pages.]—This company's No. 115 is a "Condensed Catalogue" of Sturtevant blowers, motors, forges and the like, which devices are illustrated and briefly but clearly described. [3¾"×9". 40 pages.]

THE GRANBY RUBBER CO. (Granby, Quebec) have sent us their illustrated catalogue and price list of rubber boots and shoes for the 1901 season. It is, as usual, neatly got up, and includes an extensive line of goods. These are supplied to the trade by The Ames, Holden Co., Limited (Montreal), the sole agents for the Granby factory. [4"×6¼". 75 pages.]

THE MAPLE LEAF RUBBER CO., LIMITED (Port Dalhousie, Ontario), have sent us their illustrated Catalogue and Price List for 1901-02, which is well made up and covers an extensive variety of rubber boots and shoes [3¼"×6". 64 pages.]

THE BERLIN RUBBER MANUFACTURING CO., LIMITED (Berlin, Ontario), have sent us their second annual illustrated catalogue of rubber footwear, for the season 1901-02, which is an attractive publication. [3¼"×6". 64 pages.]

THE DERMATINE CO., LIMITED (London), have issued an illustrated pamphlet in which is condensed a large amount of information under the title "A Short Account of the Discovery and Manufacture of India-Rubber and Gutta-percha, with a Description of the Special Characteristics and Qualities of

Dermatine." Dermatine, by the way, consists of a combination of gums and chemicals treated specially and vulcanized much in the same way as India-rubber, and is used as a substitute for rubber and Gutta-percha, and also for leather. [9¾"×6¾". 12 pages.]

ALSO RECEIVED.

THE Maple Leaf Rubber Co., Limited, Toronto—(1) Price List, Rubber Boots and Shoes. March 25, 1901. 16 pp. (2) Price List of Tennis, Lacrosse, Gymnasium, and Sand Shoes. 4 pp.

The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited—The Berry Rubber Heel. 8 pp.

Jenkins Bros., New York, London, etc.—[Illustrated Catalogue of Jenkins Valves, 1901, including products of the Jenkins Rubber Co.] 75 pp.

B. F. Sturtevant Co., Boston—Disc and Propeller Fans. Catalogue No. 119. 16 pp.

The Hanover Vulcanite Co., Limited, Hanover-Limmer, Germany—Surgical Appliances and Druggists' Sundries. Hard and Soft Rubber. 4 pp.

William Morse & Co., New York—Catalogue of Wind and Weather-proof Clothing. 8 pp.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED APRIL 2, 1901.

- NO. 671,103. Rubber tire for vehicle wheels. John W. D. Carlsaw, Chicago.
- 671,121. Means for fastening resilient tires to wheels. William H. Tuttle, Hartford, Connecticut.
- 671,138. Instrument for improving the hearing. Adolphus A. Knudson, Rutherford, New Jersey, and Frank H. Clark, Brooklyn, New York.
- 671,141. Cushion tire for vehicles. George Millen, San Antonio, Texas.
- 671,163. Life saving apparatus. Alan R. Ferguson, New York city.
- 671,332. Vehicle tire. Arthur T. Collier, St. Albans, England, assignor of one half to Edgar Oliver Toss, London.
- 671,357. Repair tool for elastic tires. Charles E. Strouse, Montgomery, Pennsylvania.
- 671,365. Pneumatic tire. Adam H. Beck, Washington, D. C. : Kate Beck, administratrix of said Adam H. Beck, deceased.

ISSUED APRIL 9, 1901.

- 671,477. Vaginal syringe. James Graham, Detroit, Michigan.
- 671,502. Life boat. Charles F. Sultemeyer, Chicago.
- 671,535. Pneumatic tire and wheel rim therefor. Robert Bryan-Haymes, Kingsbridge, England.
- 671,549. Elastic tire for vehicles. Frank E. Hall, Quincy, Massachusetts.
- 671,585. Vehicle tire. James Coomber, Chicago, assignor to the Wemaka Rubber Tire Co., same place.
- 671,648. Hand stamp. John C. Johnson, Dallas, Texas.
- 671,700-701. Tire fastener. William Jennings, Montreal, Canada.
- 671,849. Means for securing elastic tires to wheels. William F. Williams, London, England.
- 671,889. Adjustable rubber wire setter. John A. Johnson, Barnesville, Georgia, assignor of one-half to James P. Thurman, same place.
- 671,929. Rubber dam for dentists. Cornelius F. Horgan, Philadelphia, assignor to Edward Horgan, same place.

ISSUED APRIL 16, 1901.

- 671,986. Armor for pneumatic tires. Bacon Wakeman, Fairfield, Connecticut.
- 672,073. Pneumatic tire for vehicles. Hugh L. Warner, Dayton, Ohio, assignor to Alden D. Clark, same place.
- 672,104. Apparatus for setting rubber tires. Harry A. Palmer, Erie, Pennsylvania.
- 672,105. Apparatus for closing ends of rubber tires together. Same.
- 672,119. Tire and means for securing same in place. William F. Beasley, Plymouth, North Carolina.
- 672,207. Syringe. Jesse A. Dunn, Chicago.

- 672,217. Pneumatic tire valve tool. Edward M. Noyes, Ashtabula, Ohio.
 672,253. Vehicle tire. Lemuel E. Allen, Canton, Ohio, assignor to Anna R. Allen and William J. Poyser, same place.
 672,271. Valve for inflation. Roland C. Hilton, New Bedford, Massachusetts, assignor of one-fourth to James M. Willis, Jr., same place.
 672,277. Pneumatic toy. James L. Maull, West Whiteland, Pennsylvania.
 672,304. Spring tire. John Arn, Columbus, Ohio.
 672,391. Abdominal supporter. Wilhelm J. Teufel, Stuttgart, Germany.

ISSUED APRIL 23, 1901.

- 672,647. Last for use in manufacture of rubber shoes. Charles F. Parker, Somerville, Massachusetts, assignor to the Aluminum Last and Tree Co., Boston.
 672,724. Rubber boot or shoe sole. Augustus F. Vogt, Emporium, Pennsylvania.

ISSUED APRIL 30, 1901.

- 673,055. Pneumatic tire. John Hubbard, Upper Holloway, England.

TRADE MARKS.

- 36,151. Certain named boots, shoes, socks, robes, blankets and clothing. Mishawaka Woolen Manufacturing Co., Mishawaka, Indiana. April 2, 1901.
 36,154. Imitation leather. L. C. Chase & Co., Boston. "A Roman Warrior." April 2, 1901.
 36,155. Elastic rubber bands. The Goodyear Tire and Rubber Co., Akron, Ohio. "Imperial." April 2, 1901.
 36,197. Certain named rubber goods. Parker, Stearns & Sutton, New York city. "Alpha." April 9, 1901.
 36,198. Certain named rubber goods. *Same*. "Iama." April 9, 1901.
 36,287. Leather and rubber packings. The Strong Machinery and Supply Co., New York City. April 23, 1901.
 36,313. Rubber boots, shoes and cloth. Apsley Rubber Co., Hudson, Massachusetts. "Independent." April 30, 1901.

DESIGN PATENTS.

- 34,378. Horseshoe pad. John Ewing, San Francisco, California. April 16, 1901.

ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

6189. William Blackband, Wolverhampton. Pneumatic tires. March 25.
 6230. James Allen Swinehart and William Ambrose Byrider, 53, Chancery lane, London. Means of securing elastic tires to wheels. March 25.
 6231. Alfred Edwin Bawtree, Sutton, Surrey. Method of detecting punctures in pneumatic tires. March 25.
 6348. Franz Daubitz, Max Daubitz, and Otto Daubitz, Liverpool. Processes for the manufacture of balls and like hollow articles of rubber, and apparatus therefor. March 26.
 6472. John James Downard, Mitcham road, Tooting, London. Pocket chest expander and exercising apparatus. March 28.
 6499. Edward Humphrey Lewis, Manchester. Pumps used with pneumatic tires fitted to spoke wheels. March 28.
 6539. Harry Lucas, Southampton buildings, Chancery lane, London. Pumps for the inflation of pneumatic tires. March 28.
 6695. William Ellis, Manchester. Jointing tape and washers made from asbestos cloth and India-rubber. March 30.
 6799. Charel Van Cleemput, 72, Cannon street, London. Cycle and vehicle tires. April 1.
 6892. William Jennings, Southampton buildings, Chancery lane, London. Apparatus for attaching elastic tires to the rims of wheels. April 2.
 6925. William Phillips Thompson, Liverpool. Atomizer. [Samuel Finley Patterson, United States.] April 2.
 6959. Carl Paulitschky, Rosa Paulitschky, and Floris Wuste, 46, Lincoln's Inn Fields, London. Rubber substitutes. April 2.
 7099. Harry Croft, Manchester. Preventing puncture in pneumatic tires. April 4.
 7119. Michael Bartholomew Ryan, 33, Cannon street, London. Exercising apparatus. April 4.
 7159. Augustus Osborn Bourn, 111, Hatton garden, London. Improvements in the art of vulcanizing. April 4.
 7353. John Laird, Glasgow. Rubber inflating toy. April 10.
 7381. Enrico Canziani, 33, Chancery lane, London. Pneumatic tire. [Luigi Banchieri, Italy.] April 10.

7445. Ernest Alfred Sherley-Price and Frank Fayers Kerr, Manchester. Pneumatic tire. April 11.
 7592. John Beafarin Mahona and Adrian Anne Pompe, 15, Cook's court, Chancery lane, London. Pneumatic tire. (Date applied for under Act, 1883, Sec. 103, September 13, 1900, being date of application in United States.) April 13.
 7595. William Inglis, Glasgow. Preventing puncture of pneumatic tire. April 13.
 7782. Margaret Jefferson Buist, Bournemouth. Hygienic golosh. April 16.
 7915. Edward Everard Preston and George Duncan Kendrick, 322, High Holborn, London. Machine for producing rubber fabric. April 17.
 7916. *Same*. Pneumatic tire. April 17.
 7960. Frederick Weaver Oliver, 9, Warwick court, Gray's Inn, London. Pneumatic tire. April 18.
 8013. Arthur Thomas Collier, "Gorwena," St. Albans. Air tubes for pneumatic tires. April 18.
 8041. James Ross and Alexander Woodcock Mackenzie, Edinburgh. Means for automatically inflating the pneumatic tires. April 19.
 8069. Addison Presize Saunders, Southampton buildings, Chancery lane, London. Golf and similar balls. April 19.
 8136. Henry Hawthorne and William Garrett Ludlow, Billesley Com-mou, near Birmingham. Pneumatic tires. April 20.

PATENTS GRANTED.—APPLICATIONS OF 1899.

- 23,864. Flexible tubing. Hookham, G., Birmingham. November 30, 1900.
 24,194. Rubber Heels. Ferguson, C. S., No. 39 East Spring street, Columbus, Ohio. December 5, 1900.
 24,467. Waterproof bed-sheets. Edwards, E., 65, Chancery lane, Middlesex. [Minder, J.; Mynski Kladbischa, Moscow, Russia.] December 8, 1900.
 24,476. Cover for pneumatic tire. Christ, F., Flaschar, C., and Schef-ter, H., Mahrtsch-Truban, Austria, December 8, 1900.
 24,566. Method of attaching pneumatic tire to rim. Adair, J., Waterford, Ireland, December 11, 1900.
 24,604. Spring and rubber tire. Wright, A. E., Aldershot, Surrey, December 11, 1900.
 24,708. Overshoes. Miller, W. T., McKeesport, Pennsylvania, U. S. A., December 12, 1900.
 24,709. Non-puncturable pneumatic tire. Adams, C. T., No. 12 West Thirty-third street, New York, U. S. A. December 12, 1900.
 24,710. Non-puncturable and non-slipping pneumatic tyre. *Same*. December 12, 1900.
 24,725. Rubber nipple for nursing bottles. Haddan, H. J., 18, Buckingham street, Strand, London. [Meinecke, C. W., No. 257 Greenwich street, New York.] December 12, 1900.
 24,803. Pneumatic tire cover. Welch, C. K., Coventry. December 13, 1900.
 24,977. Pneumatic tire and method of attaching. Sayer, A. E., Birmingham. December 16, 1900.
 25,050. Hot water bottles. Lippert, J., Eich, Rheinisch Hesse, Germany. December 18, 1900.
 25,055. Waterproof uppers for boots and shoes. Altmann, J., Mannheim, Germany. December 18, 1900.
 25,224. Rubbers for cleaning, etc. Roberts, M., Manchester. December 20, 1900.
 25,416. Pneumatic tire valve. Richter, F., Cologne, Germany. December 22, 1900.
 25,489. Rubber tire. Wicks, Joseph Thomas, Birmingham. December 23, 1900.
 25,494. Means of drying Gutta-percha. Siemens Bros. & Co. and Dieselhorst, W., London. December 23, 1900.
 25,592. Pneumatic tire and method of attaching to rim. Haddan, H. J., 18, Buckingham street, Strand, London. [Kinney, F. W., Hill, E. A., and Price, R. B., Chicago, U. S. A.] December 27, 1900.
 25,597. Ventilated boot or shoe. Kennedy, M. A., No. 683 Atlantic avenue, Boston, U. S. A. December 27, 1900.
 25,758. Abdominal Belts. Ostertag, W., Barmen, Germany. December 30, 1900.
 25,763. Rubber tire. Tanghe, H., Seine, France. December 30, 1900.

APPLICATIONS OF 1900.

43. Method of attaching pneumatic tire to rim. Jones, T. W., 385, City road, London. January 1, 1901.
 128. Means for attaching rubber parts to elastic wheel tires. Dakers, J., Aberdeen, Scotland. January 2, 1901.



RUBBER GOODS

Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means “Carbon” grade—a good article; a double diamond means “Double Diamond” grade—a fine article; a triple diamond means “1846 Para” grade—a splendid article and the best we can make. Our brands on hose, belting, packing

*Belting,
Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,*

and other rubber goods are guarantees of high quality and long service.

Chicago,150 Lake St.
St. Louis,411 No. Third St.
San Francisco, 509 Market St.
Boston,24 Summer St.
Philadelphia, 724 Chestnut St.

*C. I. Packing,
Ruby Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.*

NEW YORK BELTING & PACKING CO. LTD

PIONEERS AND LEADERS—25 PARK PLACE, NEW YORK.

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for Elevator, Thresher, Saw and Planing Mill Work.

“Warranted 2XL,”

“Shield High Grade,”

“Cleveland Stitched,”

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Good belting at low cost is the result of experience and up-to-date equipment—WE HAVE BOTH.

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THE MECHANICAL RUBBER CO.,

. . . . CLEVELAND, OHIO.

Mention The India Rubber World when you write.

ANNUAL MEETING OF THE UNITED STATES RUBBER CO.

THE ninth annual meeting of the stockholders of the United States Rubber Co. was held at 12 o'clock, M., on May 21, at the registered offices of the company in New Jersey, at New Brunswick. The following reports by officials of the company were presented and accepted:

PRESIDENT'S REPORT.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: Reviewing the general business and condition of the Company, in conformity with the by-laws, the president reports as follows:

The year beginning April 1, 1900, found the trade carrying over more than the usual stocks of goods, because of the mild winter. Their orders were, therefore, conservative, and smaller than the average. The last winter, continuing warm and open over great areas, also prevented sales. Our prices—though not considered high by consumers or dealers—carried a profit which enabled competitors to undersell us.

At the February meeting, the directors decided to make important changes in prices and terms, and, on April 4, issued the following statement for the information of stockholders, viz.:

"The directors of the United States Rubber Co. deem it inexpedient to make any dividend upon the preferred stock at this time. One mild winter following another has had the effect of curtailing the consumption of rubber boots and shoes, and being determined to retain its trade, the directors of the United States Rubber Co. deemed it advisable to reduce prices, and several reductions have so far been made. As rebates to jobbers are given when prices are reduced—notwithstanding the fact that the rebates were found to be less than anticipated—the earnings of the company do not warrant the payment of further dividends for the present.

"The directors regard the present policy of low prices as a wise provision for the future of the Company, and so far this policy has resulted in there being placed with the Company unusually large orders for goods, thus enabling them to give steady employment to the large number of employees dependent upon the industry."

This course has been cordially approved by the trade, who, finding that outside and untried goods were no longer offered at a lower price, preferred to deal in our brands which, by long experience, they have found to be reliable. We have received orders from them to such an extent that we are now doing a much larger proportion of the whole business of the country than ever before. The cost of goods is considerably reduced by our factories having such increased work.

The factory of the New Brunswick Rubber Co., where bicycle tires were made, has been sold on advantageous terms, and this Company has retired from the manufacture of tires.

The physical condition of all the factories has been kept good and the cost charged in the several expense accounts. In the matter of claims referred to in previous reports, \$100,000 has been received this year, and further claims remain to be adjusted. The business of the year has been marked by good collections and freedom from any unusual amount of bad debts.

The Financial Report of the operations for the year, ending March 31, 1901, is appended. Respectfully submitted,

FREDERICK M. SHEPARD,
New Brunswick, N. J., May 21, 1901. President.

TREASURER'S REPORT.

THE following balance sheet shows the condition of the company March 31, 1901, together with comparison of same with previous year:

ASSETS.		March 31, 1901.	March 31, 1900.
Cash.....	\$	763,491.41	\$ 628,630.84
Notes and accounts receivable ...		670,155.37	1,887,506.78
Merchandise on hand.....		1,259,353.31	1,394,015.73
Investments		47,323,355.77	46,961,836.05
Total.....		\$50,016,355.86	\$50,871,993.40
LIABILITIES.			
Preferred stock.....	\$23,525,500.00		\$23,525,500.00
Common stock.....	23,666,000.00		23,666,000.00
Accounts payable.....	1,648,693.58		1,417,094.75
Due companies for goods sold	1,151,149.27		253,015.04
Total	\$49,991,342.85		\$48,861,609.79
Balance surplus	25,013.01		2,010,383.61
Reserved for dividends in April and July.....			1,177,680.00
Surplus.....	\$25,013.01		\$832,703.61

OPERATIONS OF THE UNITED STATES RUBBER CO. FOR THE YEAR ENDING MARCH 31, 1901.

Surplus, March 31, 1900.....		\$832,703.61
Dividends on Preferred Stock:		
Paid October 31, 1900, 2%.....	\$470,510.00	
Paid January 31, 1901, 1%.....	235,255.00	\$705,765.00
Balance of surplus.....		\$126,938.61
Profits from operating plants and dividends on investments.....	\$231,355.01	
Net income from commissions on sales of goods.....	34,266.26	
Total income	\$265,621.27	
Less total expenses.....	203,015.70	62,605.57
Balance of income.....		\$189,544.18
Charged for depreciation and losses.....		164,531.17
Surplus.....		\$25,013.01

CHAS. R. FLINT,
Treasurer.

The undivided earnings in the treasuries of the manufacturing companies in which this Company has investments, after charging off for depreciation, are now.. \$1,175,495.36

[The financial report is certified to by Bragg & Marin, certified public accountants, after an examination of the books and accounts of the company.]

THE ANNUAL ELECTION.

FIFTEEN directors were elected, instead of sixteen as last year. Three of the old board retired—Charles Stewart Smith, George E. Weed, and Samuel M. Williams. Thirteen members of the old board were re-elected, to which number were added Costello C. Converse, a nephew of the Hon. E. C. Converse, and vice president of the Boston Rubber Shoe Co., and E. L. Corning, a director in the Boston Rubber Shoe Co. The by-laws of the United States Rubber Co. since 1899 have provided for nineteen directors, so that there may now be considered to be four vacancies. The board is now constituted as follows, the figures in parenthesis following the names of the directors indicating the number of terms for which each has been elected to date:

1. SAMUEL P. COLT, Providence, R. I. [10]
2. ELISHA S. CONVERSE, Boston, Mass. [4]
3. COSTELLO C. CONVERSE, Boston, Mass. [1]
4. HENRY E. CONVERSE, Boston, Mass. [4]
5. EPHRAIM L. CORNING, New York city [1]
6. CHARLES R. FLINT, New York city [10]
7. JAMES B. FORD, New York city [10]
8. J. HOWARD FORD, New York city [10]



LESTER LELAND,
Second Vice-President.



COL. SAMUEL P. COLT,
President.



HOMER E. SAWYER,
Manager of Sales.

THE LEADING NEW OFFICIALS OF THE UNITED STATES RUBBER CO.

9. ROBERT M. GALLAWAY, New York city [20]
10. HENRY L. HOTCHKISS, New Haven, Conn. [10]
11. CHARLES L. JOHNSON, New Haven, Conn. [10]
12. LESTER LELAND, Boston, Mass. [3]
13. FREDERICK C. SAYLES, Providence, R. I. [3]
14. FREDERICK M. SHEPARD, East Orange, N. J. [10]
15. JOHN D. VERMEULE, New York city [5]

The first meeting of the newly elected board of directors was held at the office of the company in New York, on May 24, and the following officers were elected:

President—SAMUEL P. COLT, Providence, R. I.
Vice-President—JAMES B. FORD, New York.
Second Vice-President—LESTER LELAND, Boston.
Treasurer—CHARLES R. FLINT, New York.
Secretary—SAMUEL NORRIS, JR., Bristol, R. I.
Assistant Treasurer—H. M. SADLER, JR., New York.
General Manager—CHARLES L. JOHNSON, New York.
Assistant General Manager—H. M. SADLER, JR.
Manager of Sales—HOMER E. SAWYER, Boston.
Attorney—SAMUEL NORRIS, JR.

The executive committee consists of Samuel P. Colt, James B. Ford, Lester Leland, Charles R. Flint, and Charles L. Johnson.

THE NEW OFFICERS.

THERE is little doubt that the election of directors and officers chronicled above marks a most important change in the administration of affairs of the United States Rubber Co. The records of the gentlemen who have come to the front are well known, as they have long been prominent in the rubber business. It is nevertheless interesting to review their characteristics.

Colonel Samuel P. Colt, the new president, is a man of wide experience in law and in matters industrial. Politic, full of physical and mental vitality, broad gage, in every sense a man of the world, he is likely to carry his honors easily and be the active head of the great corporation of which he is now chief executive.

Lester Leland won his spurs as far as the rubber trade is concerned as general manager of the Boston Rubber Shoe Co. His record there was clean, wholesome, and brilliant. Very close to the veteran founder of the company, his schooling was of the best, and, as the load settled upon his shoulders, he not only made no mistakes, but handled the great business easily

and wisely, winning the loyalty of the exceedingly able corps of officers and assistants that administer the details of the various departments. Young, vigorous, capable, a close student of business, conservative but with ample courage, his position as vice president, director and member of the executive committee, are deserved, and promise the best in all things.

Homer E. Sawyer, the new manager of sales, is one of the few marketers of rubber goods who has had a thorough factory experience, and who knows every detail of the manufacture of rubber shoes "from the forest to the foot." His leading characteristic is a friendliness that is wholly genuine, coupled with a business alertness that wins instant respect.

NOTES.

It will be noted that the Boston Rubber Shoe Co. have now five representatives on the board of directors—or six, if there be included Colonel Colt, who is now a director in the Boston company. The election of C. C. Converse, vice president of the Boston Rubber Shoe Co., and president of the Revere Rubber Co., as director will be viewed with much satisfaction by the stockholders.

=E. L. Corning, the other new director, is one of the larger shareholders in the Boston Rubber Shoe Co. He is a warm personal friend of President Converse, and has long been interested in the rubber business. Mr. Corning's father, the late H. K. Corning, was a rubber importer in New York as early as 1850, and the Corning firm at one time occupied a commanding position in this trade. Mr. E. L. Corning, for several years past, has spent a considerable part of his time in Europe.

=The new officers are men in the prime of life, and have been for years actively engaged in the rubber industry, insuring an active and vigorous policy under a complete organization with the most modern methods.

=Samuel M. Williams, who retires from the board, it is reported, is to be elected president of the Lycoming Rubber Co. (Williamsport, Pa.), of which he long has been treasurer and general manager, to succeed William Howard, who died in Florida in March.

=At the annual meeting the by laws were so amended that deposits of moneys of company with banks, bankers or trust companies, in foreign companies or pertaining to company's factories, may be drawn upon order of such officers, agents, or

representatives of company as directors may from time to time appoint, and under such conditions and regulations as the directors or executive committee may from time to time prescribe.

=The income of the United States Rubber Co., less the expenses of administration, has been as follows, according to the annual reports of the treasurer for the years following. Prior to 1896 these particulars were not reported in detail:

Year ending April 1, 1896.....	\$2,339,790.60
Year ending March 31, 1897.....	1,999,611.34
Year ending March 31, 1898.....	2,070,750.41
Year ending March 31, 1899.....	3,226,513.46
Year ending March 31, 1900.....	3,007,887.54
Year ending March 31, 1901.....	62,605.57

=The fact should not be overlooked, in any study of the figures given above, that under the method of guaranteeing prices adopted by the United States Rubber Co., rebates are given whenever, before the close of any business year, there is a reduction in prices. Such rebates must have been very heavy during the past season, and in their absence it may be that the usual showing of profits would have been made.

=Frederick M. Shepard, who retires from the office of president after having filled it for four years, was understood never to have been an aspirant for the office, but to have accepted it at a time when it was thought that he, better than any other member of the board, might harmonize some discordant elements. Mr. Shepard's friends say that he welcomes the opportunity to retire from office, in view of the length of time he has spent in active business life and the number of other interests with which he is concerned. It is reported that he has not disposed of his stock in the company.

UNITED STATES RUBBER STOCKS.

THE following is a record of transactions on the New York Stock Exchange, for several weeks past:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 26	4,075	21½	20½	1,185	63	60
Week ending May 4	3,970	23½	20⅞	3,910	65	60
Week ending May 10	5,870	23	19¼	3,550	64½	60
Week ending May 18	4,900	21⅞	20½	2,032	63½	62
Week ending May 25	10,440	24	20½	6,820	67	61½

ANOTHER MEXICAN RUBBER PLANTER.

THE INDIA RUBBER WORLD has published so much in the last few months regarding the planting of India-rubber in Mexico, that further information regarding the individuals who have made a study of this question should be of interest to its readers. The following is a brief sketch regarding Mr. Maxwell Riddle, who is now acting as general manager and treasurer of the Republic Development Co., which is engaged in planting a large property for The Obispo Rubber Plantation Co. on the isthmus of Tehuantepec.

Mr. Riddle was born in Ravenna, Ohio, where his father has been engaged in the manufacture of carriages for nearly half a century. On leaving college Mr. Riddle entered his father's office and started to learn the details of carriage manufacturing. During the course of the six years which he devoted to this business, he became much impressed with the increasing use of rubber in rubber tires, which led him to a study of the sources of supply for the crude product, and then to the question of rubber planting, in the investigation of which he was assisted greatly by the Bureau of American Republics in Washington, the various foreign consuls, and the late Minister Romero. After studying the question for more than a year, he started on a trip through Central America, to learn for himself the facts regarding this interesting question.

After a long trip through Central America, visited various localities in Mexico, making a particularly thorough examination of the plantations in the states of Vera Cruz, Oaxaca, Chiapas, and Tabasco. He found that the true rubber belt in Mexico was a narrow strip of land following the border of the states of Vera Cruz and Oaxaca and continuing along the border of the states of Chiapas and Tabasco. This narrow strip having been enriched for centuries by the wash from the mountains behind it, and being drenched by the continuous rains due to its proximity to the great plateau, made it ideal for the cultivation of tropical



MAXWELL RIDDLE,
General Manager Republic Development Co.

products. He decided to purchase a property near the border of Oaxaca and Vera Cruz. After returning to the United States for a short trip, he went back to Mexico and started planting his property in earnest, and has now set out more than 100,000 trees, which he reports are doing magnificently. During the year 1899 he became interested with Chicago capitalists, chief of whom was Mr.

Alfred Bishop Mason, president of the Vera Cruz and Pacific railway, in the purchase of a tract of 2500 acres in the state of Vera Cruz, to be planted in rubber and sugar cane, and pasturage for cattle. This company have already succeeded in putting their plantation on a dividend paying basis and are anticipating very large returns when their rubber is in bearing.

Some months ago some capitalists in New York, recognizing the value of Mr. Riddle's practical experience as a planter, induced him to become associated with them as general manager of the Republic Development Co., now planting about 1,500,000 trees on their Obispo plantation, in Oaxaca. Mr. Riddle is compelled to make frequent trips between Mexico and the United States, and the proper management of this plantation, as well as his private place, keeps him very busy. He reports that they have had no difficulty in getting all the labor they could use up to the present time, and anticipates no difficulty in the immediate future, as the large town of Tuxtepec is within walking distance of the plantation, and the men much prefer to work on a place where they can get into town to see their friends on Sunday. He reports also that the town of Tuxtepec ships a large amount of crude rubber every year; much of it coming from the region immediately adjoining their plantation. Although their system of planting requires the burning of the timber and the underbrush, they are in hopes of saving many of the wild trees, the returns from which will assist materially in paying dividends.

It is encouraging to see people of Mr. Riddle's business experience engage in this important undertaking. The question is becoming recognized as of vital importance to the rubber manufacturers, and when men of training and experience take hold of it, its ultimate success seems assured.

NEWS OF THE AMERICAN RUBBER TRADE.

END OF THE BANIGAN LITIGATION.

It is stated authoritatively that agreements have been reached whereby have been terminated all the suits and counter-suits pending between the heirs of the late Joseph Banigan and the United States Rubber Co. These suits were begun, for the most part, during the lifetime of Mr. Banigan, and involved, altogether, some millions of dollars, as has been told in frequent references to them in THE INDIA RUBBER WORLD. The termination of this litigation has been accomplished by agreement of the parties concerned, and not by a decree of the courts. There were three suits in the appellate division of the supreme court of Rhode Island. One was settled May 3, 1899. The next was removed to the United States circuit court, where it is entered "Settled by agreement of parties," May 6, 1901, and the third was entered settled in the state court May 7.

GOSHEN RUBBER WORKS (GOSHEN, IND.)

THIS new corporation has completed its organization by electing H. C. Zeigler, ex-mayor of Montpelier, Ind., president; N. R. Brackin, vice president; Collins W. Kinnan, secretary; and Jerry Hayes, treasurer. Fred D. Zeigler, a son of the president, has been elected assistant treasurer. Henry A. Middleton, as already mentioned in this paper, is general manager and superintendent of the factory. He informs THE INDIA RUBBER WORLD that the factory is now in good shape, they are working on orders, and expect shortly to be working overtime. They have added some new machinery and expect to make wringer rolls as one of their leaders. They will make also the "Middleton Tough" tires, inner tubes, packing, mold work generally, and elastic bands. The starting of the factory has given great satisfaction to the people of Goshen.

PEOPLE'S HARD RUBBER CO. (AKRON, OHIO.)

THIS new company, the incorporation of which was reported in the last INDIA RUBBER WORLD, have bought property in the southern part of Akron for the location of their factory, and ground was to be broken for the new buildings on May 20. THE INDIA RUBBER WORLD was advised at that time that all the machinery had been ordered, and they expected to have the factory running in six or eight weeks. A Trenton newspaper states that Charles Rehor, of Morrisville, Pa., has left the employ of the Vulcanized Rubber Co. to take charge of the new plant at Akron.

APSPLEY RUBBER CO'S ANNUAL MEETING.

THE annual meeting was held at Hudson, Mass., on May 6. The treasurer's report was presented. The annual election resulted: L. D. Apsley, president and treasurer; L. D. Apsley, L. M. Apsley, and C. F. Hamilton, directors; M. T. Bailey, secretary. Work has been very brisk at the factory of late. Large orders have been received, and many employes have worked overtime.

ONLY RUBBER HOUSE IN LOUISVILLE.

THE Louisville Rubber Co., manufacturers' agents and wholesale and retail dealers in rubber goods, Nos. 524-526 Fourth avenue, are excellently located on a principal business street in Louisville, a city of 204,000 population, and an excellent distributing point for Kentucky and the south. They are exclusive agents for the B. F. Goodrich Co., distributing agents for Morgan & Wright bicycle and vehicle tires, carry large lines of New Jersey Car Spring and Rubber Co.'s hose, and Good-

year's India Rubber Glove Co.'s lines, are agents for C. J. Bailey & Co., and market large numbers of their own brand—"Falls City"—bicycle tires. They also have a good sale for their telephone receiver cushions.

BOSTON RUBBER SHOE CO.

THE annual meeting was held May 6, and the following directors elected: E. S. Converse, C. C. Converse, H. E. Converse, Lester Leland—all of Boston; E. L. Corning of New York, E. F. Bickford of Malden, and Samuel P. Colt of Providence. The directors later elected the following officers: E. S. Converse, president; C. C. Converse, vice president; Lester Leland, treasurer and general manager; and Frederick T. Ryder, secretary and assistant general manager. These are the same officers as last year, except that Mr. Ryder, who has been secretary of the company for many years, now takes on an additional title.—The annual report of the company contains the following figures, with which are contrasted the corresponding details for the previous year:

ASSETS.		
	1901.	1900.
Real estate and machinery	\$ 1,096,525	\$ 1,104,525
Cash and debts receivable	1,741,308	1,504,862
* Contract with U. S. Rubber Co.	4,800,000	5,000,000
Stock in process of manufacture	3,200,131	3,667,644
Miscellaneous	84,512	15,000
Totals	\$10,922,476	\$11,292,031
LIABILITIES.		
Capital stock	\$ 5,000,000	\$ 5,000,000
Balance, profit and loss	982,324	1,192,729
Debenture bonds	4,800,000	5,000,000
Undivided surplus	140,152	99,302
Totals	\$10,922,476	\$11,292,032

* To pay principal and interest of debenture bonds as they may mature or be drawn.

AMERICAN RUBBER CO.

AT the annual meeting, May 6, the election of directors resulted: Samuel P. Colt, William R. Dupee, Charles L. Johnson, Harry E. Converse, and William H. Hill—the old board. Mr. Dupee was reelected president and George P. Eustis treasurer and clerk.

QUICK RECOVERY FROM A FIRE.

THE B. F. Sturtevant Co. (Boston, Mass.) is rapidly recovering from the effects of the fire of April 14, which affected only the engine and electrical departments. With only a day's delay incident to the renewal of belts, the remainder of the plant has been running as usual. Already a complete new equipment of improved machine tools is nearly installed in other buildings. As the Sturtevant Co. employs electric transmission for the driving of a considerable portion of its tools, this work of installation has been a comparatively simple matter. Further delay in shipment of engine and electrical work is unlikely, for no patterns or drawings were destroyed, and the foundry, with a large stock of castings, is intact.

NATIONAL FIRE PROTECTION ASSOCIATION.

THE fifth annual meeting will be held in Chicago on June 11-13. One item on the program is the report of the committee on hose and hydrants, by W. H. Stratton, chairman. Another is an exhibition of methods employed in testing cotton rubber lined hose under the standard adopted by the association.

CONSOLIDATED RUBBER TIRE CO.

AT the annual meeting, held in Jersey City on May 6, the old board of directors was re-elected. No financial statement was given out. The regular quarterly dividend of $1\frac{1}{2}$ per cent. on the preferred stock was passed at the directors' meeting held February 9, since which time no announcement respecting dividends has been made. It has been understood that a plan was being considered for reducing the capital of the company from \$10,000,000—of which \$8,000,000 has been issued—to \$5,000,000 by cancelling the \$2,000,000 of treasury stock, one half each preferred and common, and by issuing \$3,000,000 in 4 per cent. debenture bonds to replace an equal amount in preferred shares. It was reported that action would be taken upon this matter at a special meeting of stockholders on the same date as the annual meeting. The special meeting was adjourned, however, on account of a restraining order issued by Chancellor McGee, of New Jersey. The order was obtained by Charles H. Corbin, acting for the Goodyear Tire and Rubber Co., The India Rubber Co., and the Hartford Rubber Works Co., who claimed to have unsettled claims against the Consolidated Rubber Tire Co., and who protested against the proposed financial arrangement. The order of the chancellor was returnable May 13 at Trenton. At the latter date R. V. Lindabury, who represented the Consolidated company, applied for an adjournment for one week, which was granted. The matter was later further adjourned to May 27. On the latter date Vice Chancellor Pitney postponed the further hearing of the matter for two weeks—that is, to June 10.

MISHAWAKA WOOLEN MANUFACTURING CO.

THIS company, which three years ago added the making of rubbers to their felt boot business, now have a daily production of 3600 pairs of rubber boots, shoes, and arctics. Their goods are sold to retailers, through a force of fifty traveling men. They employ 1300 hands and their factory covers thirteen acres. Last year's business is reported to have exceeded \$3,000,000.

THE DEARING-SCOTT MANUFACTURING CO.

THIS company, the incorporation of which, at Jackson, Michigan, was reported in the May issue of this paper, are placing upon the market a new patented rubber heel—which they call the "Walkeazy"—and also sheathed creepers, etc. Henry W. Scott is president and manager, and D. M. Dearing vice president.

THE B. F. STURTEVANT CO. (BOSTON) ABROAD.

THE Sturtevant Engineering Co. has recently moved its London office to 147, Queen Victoria street, in order to secure the increased accommodation necessary for its rapidly growing business as the European representatives of the B. F. Sturtevant Co. A new branch office has been established at 31, rue de Provence, Paris, and a change made in the location of the Glasgow office to 45, Hope street. The offices at Berlin, Stockholm, Amsterdam, and Milan remain the same.

CLIFTON MANUFACTURING CO. (BOSTON.)

THIS company have been established for several years, and have manufactured a general line of rubber goods, principally clothing in the beginning, but adding later electrical rubber goods, such as tapes, compounds, and tubing, and more recently rubber press work and other sundries made from India-rubber and Gutta-percha. In connection with the electrical trade the demand for iron armored lined conduit has developed, and the addition of a pipe lined with rubber has added much to the output of the company, which has grown beyond their present capacity, with the prospect that the manufacture of conduit alone will become an important business in itself. The

company have done a business of over \$200,000 a year, and it is proposed now to increase the capital to \$200,000, and subscriptions are now invited. The officers are: H. F. Spear, president; J. C. Chamberlin, vice president; A. M. Lougee, treasurer; D. B. Hayward, secretary. Offices: No. 220 Devonshire street, Boston. Factory at Hyde Park.—The Clifton Manufacturing Co., on April 23, filed a certificate of incorporation in the office of the secretary of state of New Jersey, at Trenton; capital, \$200,000.

THE ASSETS OF THE OLD C. H. FARGO FIRM.

THE litigation over the assets of the bankrupt shoe jobbing firm of C. H. Fargo & Co. (Chicago), after five years, has been ended by a decision by the United States supreme court, which admits all creditors to share pro rata in the final distribution. The decision holds that the preferences obtained by the United States Rubber Co. were fraudulent and should be set aside. The court did not believe, however, that the conduct of the rubber company in trying to get possession of the assets of the Fargo company was actually or wickedly fraudulent, and therefore held that it should share in the assets, the same as all the other creditors. The assets of the old Fargo company, now amounting to \$125,000, have all been turned into cash.

THE EXPORT TRADE IN WRINGERS.

THE American Wringer Co. are reported to be at present shipping some 500 of their wringing and mangling outfits per week to their English offices located at 121, Southwark street, London, from where they are distributed throughout the United Kingdom. The next best customer for equipment of this description is said to be Russia, fair-sized consignments being forwarded regularly through Markt & Co., Limited, principally. Scandinavia, Holland, Belgium and Rhenish Germany are also becoming steady purchasers, shipments to these countries being made chiefly through the before-mentioned export commission house. The Australian orders for the American Wringer Co.'s specialties mostly come through Arkell & Douglass, Flint-Eddy & American Trading Co., and the Strong & Trowbridge Co.

THE LINSEED OIL TRUST.

ANNOUNCEMENT is made of a plan of merger of the American Linseed Co. and the Union Lead and Oil Co., with a view to securing economies in marketing linseed oil and white lead under one organization, since the two products are sold largely to the same class of customers. Stockholders in the American Linseed Co. are requested to send in their stock not later than June 5. The proposed capital of the combined companies is \$17,000,000, in 170,000 shares of common stock. President Guy C. Major, of the Linseed company, says that when the company was organized, three years ago, they expected to do a business of \$12,000,000. They had \$5,000,000 working capital, and last year their business amounted to \$20,000,000. The supply of flaxseed was deficient, in consequence of which prices were advanced; they had also to enlarge their factories, and had to borrow money. Meanwhile the Union Lead and Oil Co. was formed, with important mining interests and an improved method for making white lead, and it has been thought best to amalgamate with this company, as the best means of marketing economically the linseed oil product.

LA CROSSE (WIS.) RUBBER MILLS CO.

THE stockholders of this company, at a meeting held on May 17, resolved to increase the capital stock from \$50,000 to \$100,000, to provide for the growing volume of the company's business.

GOODYEAR TIRE AND RUBBER CO. (AKRON, OHIO).

THIS company have planned to begin extensive additions to their plant, to obtain a site for which they have made an arrangement with the city of Akron to have vacated a portion of Factory street, which runs alongside their premises. The company in turn are to give land for the extension of another street, to take the place of the section which is to be closed, by means of which the Factory street crossing over the Valley road will be abolished and a safer crossing provided on the other street. The new building will be three stories high and 200x60 feet.—It is reported that D. A. Harrison, a leading member of the carriage trade at Clarksville, Tennessee, will go to Atlanta, Georgia, to open a tire depot for the Goodyear Tire and Rubber Co.

BATCHELDER & LINCOLN CO. (BOSTON.)

THERE is coming into existence a new class of rubber trade catalogues—catalogues of rubber footwear issued by wholesale and jobbing houses in the leather shoe trade. One of the best examples has just been issued by the important firm named above, being a "Net Price List of Rubber Goods, Wool Boots, Leggings, Combinations, and Tennis Goods, 1901." The brands included are the "Boston," "Bay State," "Woonsocket," and "Rhode Island" boots and shoes; "Medford," "Michigan," "Milwaukee," "Hastings," "Grand Rapids," and "Concord" wool boots; and the United States Rubber Co.'s tennis goods. The catalogue is splendidly illustrated and contains some interesting matter in regard to the source and properties of India-rubber. [7"x8". 44 pages.]

WEIMER, WRIGHT & WATKIN (PHILADELPHIA.)

THIS leading shoe house has been mentioned already in this paper as having largely extended its rubber shoe department, becoming distributing agents in Philadelphia for the United States Rubber Co. The rubber department has been placed in charge of R. H. Griffin, for many years with the New Jersey Rubber Co. and later with the United States Rubber Co. The latest catalogue of the firm devotes an unusual amount of space to the rubber footwear carried. [4¾"x8¾". 56 pages.]

A DUNLOP TIRE FACTORY AT AKRON?

PRESS dispatches from Akron, Ohio, dated May 4, stated that a Dunlop tire factory, on a large scale, would be erected shortly in that city. THE INDIA RUBBER WORLD'S correspondent at Akron writes: "There is talk of the Dunlop people starting a factory here, but Mr. John J. Kearns, who recently resigned as superintendent of the India Rubber Co., of this city, to go to Australia to run the Dunlop factory at Melbourne, says it will probably be two years before they start a factory here." The following letter has been received:

TO THE EDITOR OF THE INDIA RUBBER WORLD: Reply-
ing, to your inquiry of the 15th, we do not know any more about our proposed factory in Akron, or the gentleman who is to superintend the business, or any other of the details mentioned, than were given in the paper, which we understand published these "facts." We are anxiously awaiting the next issue of the paper in question in order to learn something more of our plans. Very truly yours,

THE AMERICAN DUNLOP TIRE CO.

Belleville, N. J., May 16, 1901.

KIRK BROWN [President.]

NEW INCORPORATIONS.

THE Northwestern Rubber Co., Limited, April 26, under West Virginia laws, to manufacture rubber goods; capital, \$1,000,000. The charter was signed by Lucien Oudin, of the New York law firm of Oudin & Oakley, and four residents of Charleston, W. Va., the names of the stockholders in the company not being revealed. It is reported, however, that the

principal works of the company are to be located in England, and it is possible that the details involved, when announced, will prove of more than ordinary interest to the trade.

=The Spink Manufacturing Co., April 26, under New Jersey laws, to manufacture athletic goods and rubber specialties; capital \$100,000. Incorporators: Walter T. Johnson, Fent E. Spink, and Edward J. Thobaben, all of Cleveland, Ohio.

=Latimer Tire and Rubber Manufacturing Co. (Chicago), April 30, under Illinois laws; capital \$25,000. Incorporators: Edward J. Newberger, L. M. Ritterband, and M. D. Evers. The company control a patented tire and have a plant at Huntley, Illinois.

=The Gutta Percha and Rubber Manufacturing Co. (New York) have formed a corporation in Indiana, to cover their business in that state, with \$4000 capital.

=The Hygienic Rubber Co. (Boston), May 6, under Delaware laws; capital, \$50,000. The history of this company—which succeeds the "Don't Slip" Heel and Sole Co. (Lynn, Mass.), was given briefly in THE INDIA RUBBER WORLD for February 1 [page 158].

=The Alling Rubber Co. (New Haven), May 9, under Connecticut laws, to sell rubber goods at wholesale and retail; capital, \$6000. Incorporators: N. E. Alling, A. E. Alling and E. L. Alling. Under the name Alling Rubber Co. three stores have been maintained for some time past, at Bridgeport, Norwich, and Stamford, Connecticut, the business having originated eighteen years ago. The New Haven store, which makes the fourth, is located at No. 13 Church street, and is one of the handsomest in the state.

=The Blackstone Rubber Co., May 15, under Maine laws; capital, \$250,000. To manufacture the Harris leather soled rubber boot. Ira R. Wilbur, of the Wilbur Shoe Co., is president; Samuel J. Harris, vice president; J. William Peacock, secretary; Herbert Ainsworth, treasurer—all of Providence, Rhode Island. The location of the factory has not yet been determined.

=United States Tire Inflator Co., May 19, under New Jersey laws; capital, \$125,000. Incorporators: Ansley D. White, John Laughlin, Maurice B. Fitch, Thomas W. Symons, Rowell Park. Principal office: The Corporation Trust Company building, Jersey City, N. J.

=Sectional Pneumatic Tire Co. (Binghamton, N. Y.), May 20, under New York laws; capital, \$50,000. Directors: E. C. Underlied, B. A. Baumann, H. J. Baumann—all of Binghamton. The company will exploit a sectional pneumatic tire, patented by Charles Miller, and described in THE INDIA RUBBER WORLD for April 1 [page 206].

TRADE NEWS NOTES.

THE Trenton Rubber Manufacturing Co. (Trenton, N. J.) have just installed another large hydraulic belt press 30 feet long and 76 inches wide. The improvements that the Trenton company have made during the last year in buildings and mechanical equipment make it to-day a very complete and up-to-date plant.

=The Goodyear Tire and Rubber Co. (Akron, Ohio) are sending out fine packages of assorted bands. In the top of each box is a neat card calling attention to the trade mark, "Imperial," and giving the purchaser the excellent advice: "Keep them in a dry, dark, cool place, and they will last for years. Strong light and artificial heat destroy the life of rubber."

=The Stephen Ballard Rubber Co. (New York) have removed their office to the Gerken building, corner of Chambers street and West Broadway. Their warerooms will remain at the former address, No. 123 Chambers street.

=James H. Mayell, doing business as Henry Mayell & Son, dealer in rubber goods at Nos. 34-36 State street and No. 430 Broadway, Albany, New York—a long established house—made an assignment for the benefit of his creditors on May 2 to William L. Widdemer.

=The E. B. Davidson Rubber Co., an incorporated jobbing house at Cleveland, Ohio, was placed in the hands of a receiver on May 2, the court appointing William Creech under a bond for \$20,000. It is stated that the assets are larger than the liabilities, but that, on account of carrying too large a stock for the amount of capital invested, and particularly on account of the slow sale of their stock of mackintoshes, the company was unable to meet its obligations. Some creditors began to press their claims, and the appointment of a receiver was asked for. The receiver is continuing the business, and it is hoped that the company will be able to resume.

=The Vulcanized Rubber Co. have been running their factory at Morrisville, Pa., three nights a week.

=As a result of the "belated rubber shoe weather," mentioned in the last INDIA RUBBER WORLD, the shoe dealers of Canton, Ohio—one of the towns visited by the snowstorm late in April—did an unprecedented business for one day. Some stores sold more rubber boots on April 20 than during the whole of the season before.

=W. C. John has resigned the positions of secretary and treasurer of the New Jersey Rubber Co. (Lambertville, N. J.), and been succeeded by Charles M. Dilts.

=A movement is on foot to organize a company, with \$250,000 capital, to exploit, for use on automobiles, the "Dreadnought" puncture proof tire, an illustrated description of which, as designed for bicycles, appeared in THE INDIA RUBBER WORLD, December 10, 1897 [page 79.] Inducements are offered for joining the preliminary organization of the company, the matter being in the hands of John Acken, Nos. 11-13 William street, New York.

=The Thorndike Manufacturing Co. (Lowell, Mass.), elastic web makers, has been acquired by Josiah Harriman, who founded the business in 1870, after which it passed into the hands of a corporation. Mr. Harriman is now sole owner of four elastic web factories in Lowell.

=An attempt is being made in New York to form a new company to exploit the "United States" pneumatic horse collar. Two years ago the United States Pneumatic Horse Collar Co. was organized for this purpose, with \$1,000,000 capital, and favorable results were reported from the use of the collars by fire departments, express companies, and other concerns using many horses in heavy work, but the company disappeared from public notice after a judgment for \$5000 was issued against the company last January, in favor of a Brooklyn creditor. The collar is patented, and there are people who believe that it has enough merit to justify the further investment of capital in it.

=The Boston Woven Hose and Rubber Co. have declared a semi-annual dividend of \$3 per share, payable June 15 to stock of record June 10. Books will be closed from June 10 to 15, inclusive.

=William Morse & Co., rubber jobbers, No. 72 Reade street, New York, who were driven recently to seek new temporary quarters by a fire at that location, which was reported in THE INDIA RUBBER WORLD, have resumed business at the old stand, which has been renovated so thoroughly as not only to leave no trace of the fire, but the premises present a more attractive appearance than before. Messrs. Morse & Co. are doing an unusually large business in rubber footwear, besides filling large orders for the new weatherproof clothing made by the American Rubber Co.

=The American Tool and Machine Co. (Boston) have removed their New York office from No. 41 Park row to the St. Paul building, No. 220 Broadway. Mr. G. F. Kenney is in charge, as heretofore.

=Liberal subscriptions were made by New York business men for the relief of sufferers from the disastrous fire at Jacksonville, Florida, early in the month. The published list of subscribers included the names of the American Hard Rubber Co., The Gutta-Percha and Rubber Manufacturing Co., the Vulcanized Rubber Co., and Charles R. Flint.

=The establishment of a mechanical rubber goods factory at La Crosse, Wisconsin, has been postponed for the present.

=H. E. Fine, of Trenton, N. J., has been doing a very successful business in connection with the rubber trade in the manufacture of metal plates for hose and belting markers.

=Mr. W. H. Adams, of Boston, for many years connected with fire hose interests, has associated himself with the New England agent of The Isthmus Rubber Co., and is doing excellent work in marketing their stock.

=C. M. Ammerman, who for some time past has been associated with the crude rubber house of William Wright & Co. (New York), takes charge of their New England interest, and has opened an office at No. 620 Atlantic avenue, Boston.

=A meeting of the jobbers of rubber boots and shoes in New Brunswick was called for May 20, to consider matters connected with the Rubber Boot and Shoe Jobbers' Association of Canada, in connection with the association and to take up the jobbers' interests generally. The question of sales of American rubbers will be considered particularly.

=According to John J. Kearns, of Akron, Ohio (interviewed in the Akron *Journal*), who is going to Australia for the Dunlop company, the latter will manufacture the Kelly-Springfield carriage tire, having secured the rights for Australia.

=In order to provide facilities for conducting its rapidly increasing local business the B. F. Sturtevant Co. (Boston) has just removed its Chicago office to much larger quarters at Nos. 281 289 South Clinton street.

=Superintendent Palmer of the Pennsylvania Rubber Co. (Erie, Pa.) is making a marvelous record both as an organizer and factory manager. The factory is turning out excellent work, and is exceedingly busy.

=An exceedingly neat bit of advertising is a paper weight in the form of a diminutive horseshoe, nicely nicked, but with a rubber tread of the type that Whitman & Barnes Manufacturing Co. (Akron, Ohio) have made famous. It is a bit of advertising that does not wear out, and which no one would think of throwing away.

=R. H. Greene has resigned his position as vice president and managing director of The Maple Leaf Rubber Co., Limited (Port Dalhousie, Ont.), to accept an important position with the Gutta Percha and Rubber Manufacturing Co., of Toronto, Limited, the change taking place June 1.

=A four pair telephone cable manufactured by W. R. Brixey (New York) was laid from Governor's Island to the New York barge office, on April 25. It was laid by the cable boat *Western Union* and is owned by the government.

=The New Century Rubber Co. (Philadelphia), first mentioned in the February issue of this paper, have nearly completed their factory at Burlington, New Jersey. They have been installing machinery during the past month, and are now about ready to begin the devulcanization of rubber.

=The stockholders of the Narragansett Web Co. (Newport, R. I.) have authorized the directors to consolidate with some other concern, as it is felt that the small size of the plant places it at a disadvantage in quoting prices for products.

PERSONAL MENTION.

THE city of Memphis gave an enthusiastic welcome to President McKinley and the members of the government accompanying him, on April 30. One of the committee of reception and entertainment, who met the visitors at the railway station and accompanied them in carriages to the point where the public exercises took place, was Mr. H. N. Towner, of the Memphis rubber trade.

=Mr. O. C. Barber, of the Diamond Rubber Co. and the Diamond Match Co., is credited with having brought about the formation of the new combination in the cereal food trade—The Great Western Cereal Co., with \$3,000,000 capital—of which he is chairman of the board of directors. There has been talk of its consolidation with the American Cereal Co., known as the cereal "trust."

=Mr. Arthur W. Stedman, of George A. Alden & Co. (Boston), has been elected president of the Brookline Automobile Club.

=Mr. Isaac L. Rice, president of the Consolidated Rubber Co. (New York) was among the witnesses invited to testify before the United States Industrial Commission during their recent sitting in New York.

=Mr. F. B. Rickaby, who has lately gone to Akron, Ohio, to represent Reimers & Co., underwent an operation for appendicitis on May 9, which, while thoroughly successful, will undoubtedly lay him up for two or three weeks. A bit of hard luck for him personally, as he is making an excellent record in that field.

=Mr. George Whitney, president of the National Union Bank, Boston, who died at his home on April 29, was for ten years a director in the Boston Belting Co., and his loss will be severely felt in both business and social circles.

=Colonel Harry E. Converse, of the Boston Rubber Shoe Co., who went to the front during the war with Spain, recently entertained in Boston some of the officers with whom he was associated in the service, including Major General S. B. M. Young, who has since distinguished himself in the Philippines.

COTTON DUCK COMBINATION.

PLANS are under way for forming the United States Cotton Duck Corporation, probably under a New Jersey charter, with a capitalization mentioned at \$26,100,000, to take over the present Mount Vernon-Woodberry Cotton Duck Co. and several outside mills. It is reported that the cash needed for financing the merger of these companies has been underwritten by a syndicate of New York and Baltimore capitalists, who will take the preferred stock on a basis of 95.

STANDARD RUBBER PLANT SOLD.

AT the trustee's sale of the Standard Rubber Co., at Camello, Mass., on May 22, at auction, the land (2.33 acres), buildings, and the greater part of the machinery, including the electric light equipment, were purchased by T. E. Eustis, who is interested in the rubber clothing trade, at No. 19 Columbia street, Boston. The Standard Rubber Co. assigned some months ago to Robert B. Baird, as trustee, and at a creditors' meeting Charles W. Leonard was named as a co-trustee.

MODEL RUBBER CO. (WOONSOCKET, R. I.)

AT a meeting of the stockholders on May 22, the directors were authorized to sell or lease the company's rubber shoe plant, which has been idle since the beginning of the year. It is announced that it has been decided to lease the plant to Herman Clarke, Charles P. Russell, C. V. N. Radcliffe, and their associates, all of New York. The lease will be for two years, with

option of purchasing the mill within that period, and it is understood that the lessees will soon start the factory, there being in hand already a considerable number of orders. Herman Clarke was general manager of the Empire State Rubber Co. (New York), incorporated in Virginia in 1897, with \$1,000,000 capital authorized, to operate the rubber factories at Setauket, L. I., and to deal in rubber goods. There is now being formed under Delaware laws a corporation to be known as the Empire Rubber Shoe Co., with \$50,000 capital, with the above three named persons to be president, secretary, and treasurer, respectively.

RUBBER TRADE NOTES FROM CHICAGO.

BY OUR REGULAR CORRESPONDENT.

NOW that the season 1899-1900 is ended, it is possible to mark up the record made in rubber footwear. It is reasonably certain that in the middle west, and territory of which Chicago is the jobbing center, though all the firms have not had quite the same experience, somewhat more footwear went into consumption than in the previous season.

March having been a very bad month in this vicinity, brought the retailers' stocks generally pretty low, which was fortunate, for April proved to be the driest month ever recorded for Chicago.

The very heavy April snow storm which swept over the country from Ohio to the seaboard gave Chicago the go-by entirely.

The filling-in orders which came from the retailers have probably enabled the jobbers to carry over rather less stocks than they did the year before, though there are considerable exceptions to this rule.

One very well posted gentleman stated it as his opinion that the stocks carried over are very heavy, and more than they were a year ago. One very important and noticeable factor is the materially decreased use of rubber footwear in the cities within the last few years. Beyond doubt this is largely brought about by the heavier shoes now worn, particularly by the women, but this would hardly account entirely for it. It is more than likely that it has become largely a fad to do without them. It is well for the trade as a whole that the country consumption increases as the city consumption decreases.

In anticipation of an advance in price on April 1, the jobbers booked prior to that date very heavy orders for the coming season—heavier than for some years past. Indeed, it is believed by some that the retailers have generally over-bought. But contrary to expectations a further discount of 5 per cent. was made on April 1, and orders have been very light since that date.

Trade in mackintoshes is very light, more so even than is usual for the season. The very dry April before referred to curtailed the business materially.

The bicycle and vehicle tire trade is excellent, and very much better than last year. It is very evident that the bicycle has settled into place as an article of very necessary use, and each year will doubtless show a healthy growth.

All April being dry, and the last week of it exceedingly hot, gave to the garden hose business a great stimulus. The dealers and manufacturers have had so far the best season for some years, and stocks in first hands have been almost wiped out. As one representative of a large Eastern manufacturer puts it, the trade has been immense. In other departments the mechanical rubber trade is very fair, and there seems to be quite a volume doing in good belting.

The Empire Rubber Manufacturing Co. have moved to a very desirable location at No. 248 Randolph street.

REVIEW OF THE CRUDE RUBBER MARKET.

COMPARED with last month, our quotations are lower, the decline being most marked in Pará sorts, but extending throughout the list for which quotations are commonly given here, with the exception of Assam and Borneo, for which no change is noted. At this time manufacturers are not buying freely, however, although the condition in all the branches of the industry is reported to be one of activity. This is to be explained by the fact that, within a few weeks past, many manufacturers have bought heavily, in anticipation of higher prices, so that, as a rule, they have in store more than enough for current needs. The end of the Pará crop season is now near at hand, with unusually small stocks in the primary markets, although the world's visible supply compares favorably with recent years. The heavy stocks of Africans reported for some time past at Antwerp and Hamburg would seem to have diminished sensibly, though it is not always an easy matter to determine the actual extent of stocks of African sorts as a whole. During the past month orders have been filled for considerable Pará for shipment from New York to Europe, indicating that wants on the other side could not always be filled promptly in the primary markets.

May 30 having been a holiday, the New York quotations given below are those obtained on May 29:

PARÁ.		AFRICAN.	
Islands, fine, new....	83 @84	Tongues.....	46 @47
Islands, fine, old....	85 @86	Sierra Leone.....	62 @63
Upriver, fine, new....	88 @89	Benguella.	54 @55
Upriver, fine, old....	90 @91	Cameroon ball.....	47 @48
Islands, coarse, new....	50 @51	Flake and lumps.....	35 @36
Islands, coarse, old....	@	Accra flake.....	17 @18
Upriver, coarse, new....	62 @63	Accra buttons.....	50 @51
Upriver, coarse, old....	63 @64	Accra strips.....	@
Caucho(Peruvian)sheet	47 @48	Lagos buttons.....	50 @51
Caucho(Peruvian)strip		Lagos strips.....	@
none imported now.		Liberian flake.....	@
Caucho (Peruvian) ball	55 @56	Madagascar, pinky....	@
CENTRALS.		Madagascar, black....	@

Esmeralda, sausage....	54 @55	GUTTA-PERCHA.	
Guayaquil, strip.....	52 @53	Fine grade.....	1.75
Nicaragua, scrap . . .	53 @54	Medium	1.45
Mangabeira, sheet.....	41 @42	Hard white	1.20
EAST INDIAN.		Lower sorts.	65

Assam.....	75 @76	Balata.....	
Borneo.....	36 @46		

Late Pará cables quote:

Islands, fine.	Per Kilo 5\$600	Upriver, fine...	Per Kilo. 6\$300
Islands, coarse	2\$700	Upriver, coarse.....	3\$900

Exchange 12 $\frac{3}{8}$ d.

It should be mentioned that during the month there has been an unusual variation between prices quoted by different houses in New York. In addition to the figures given above, the following quotations were obtained on the same day in New York :

	One Source.	Another Source.
Islands, fine, new.....	87, spot.	85, to arrive.
Upriver, fine, new.....	90@91, spot.	88@89
Upriver, fine, old.....	.....	90@95
	according to quality.	
Islands, coarse, new.....	53, spot.	51
Upriver, coarse, new.....	63, spot.	63, to arrive.

NEW YORK RUBBER PRICES FOR APRIL (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine...	85 @94	98 @1.02	1.00@1.03
Upriver, coarse.....	59 @68	73 @ 76	85 @ 88
Islands, fine.....	84 @93	96 $\frac{1}{2}$ @ 99	1.00@1.03
Islands, coarse	52 @60	57 $\frac{1}{2}$ @ 60	69 @ 73
Cameté, coarse.....	54 @63	63 @ 65	72 @ 74

In regard to the financial situation, Albert B. Beers, (broker in India-rubber, No. 58 William street, New York) advises us as follows:

"There has been little change in the money market as regards rates for paper during May, from the conditions prevailing in April, though there has not been much demand from city banks, but a fair inquiry from out of town. Rates have ruled at 4 $\frac{1}{2}$ @5 per cent. for the best rubber names, and 5 $\frac{1}{2}$ @6 per cent. for those not so well known."

Stocks of Para Rubber (Metric Tons).

	NEW YORK.					
	Fine and Medium.		Coarse.	Total 1901.	Total 1900.	Total 1899.
Stocks, March 31.....	818	111 =	929	640	492	
Arrivals, April.	1670	471 =	2141	861	762	
Aggregating.....	2488	582 =	3070	1501	1254	
Deliveries, April.....	1532	494 =	2076	651	718	
Stocks, April 30.....	906	88 =	994	850	536	

	PARÁ.			ENGLAND.		
	1901.	1900.	1899.	1901.	1900.	1899.
Stocks, March 31.....	485	1030	1230	1346	1355	900
Arrivals, April.	1980	1600	1520	904	1140	685
Aggregating.....	2465	2630	2750	2250	2495	1585
Deliveries, April.	2295	1840	2180	825	625	700
Stocks, April 30..	170	790	570	1425	1870	885

World's supply, April 30 (excluding Caucho)..	1901. 3885	1900. 4392	1899. 3106
Pará receipts, July 1 to April 30.....	21,746	23,450	22,885
Afloat from Pará to United States, April 30..	861	333	106
Afloat from Pará to Europe, April 30.....	435	549	1009

United States Imports.

THE official statement of quantities and values of imports of India-rubber during the first ten months of the fiscal year beginning July 1 is shown below, together with the average value per pound as computed from the official figures:

	1898-99.	1899-1900.	1900-01.
Total imports..... pounds	41,776,791	39,445,723	39,373,157
Total value.....	\$25,958,169	\$25,602,089	\$19,938,717
Average value per pound....	62.1 cents.	64.4 cents.	50.6 cents.
Imports from Brazil, pounds.	22,683,497	22,075,064	25,487,400
Total value of same	\$13,909,159	\$14,554,962	\$11,782,153
Average value per pound....	61.3 cents.	65.9 cents.	46.2 cents.

It may surprise some people to see that the average value of Brazilian rubber is stated at less than the average value of the whole imports, including Africans, Assam, and Centrals. But so the figures run, for two out of the three years, and the figures are given for what they may be worth.

Gutta-percha.

EXPORTS from Singapore for 1900 were smaller than for the previous year, as shown by the following figures compiled from the records of the Singapore Exchange. The records are kept in piculs, which have been converted into pounds for the present comparison :

YEARS.	Great Britain.	Other Europe.	United States.	Total.
1900.	10,572,933 $\frac{1}{2}$	2,856,533 $\frac{1}{2}$	254,666 $\frac{3}{4}$	13,684,133 $\frac{1}{2}$
1899.....	10,149,866 $\frac{1}{2}$	5,586,800	441,466 $\frac{3}{4}$	16,178,133 $\frac{1}{2}$
1898.....	6,680,666	3,069,466	4,352,533 $\frac{3}{4}$	14,102,666 $\frac{3}{4}$
1897.....	3,967,866	2,307,066	162,800	6,437,733 $\frac{1}{2}$
1896	3,376,000	2,379,333 $\frac{1}{2}$	194,666 $\frac{3}{4}$	5,950,000

As mentioned in this place hitherto, the figures for 1898 are evidently in error—probably by 4,000,000 pounds—with regard to exports for the United States, probably through the inclusion of Gutta-jelatang (Pontianak).

Liverpool.

WILLIAM WRIGHT & Co. report [May 1]: "Fine Para has been active throughout the month, and, as we foreshadowed in our last, prices have advanced fully 3d. per pound. Supplies in Pará and Manáos have been liberal, but, notwithstanding, all parcels have been readily bought at current rates, fully 2½@3d. above the prices ruling here. In view of the short supplies during the next few months, and the probability of a small crop next season (owing to financial difficulties in Brazil), we are inclined to think that although there may be one or two temporary breaks, the tendency of prices will be to advance. The Americans have been strong and active buyers in Pará during the last two months, and, as we said in our March issue, they do not buy at pence per lb. above market prices merely for the pleasure of 'doing business.' - - - Africans have experienced a strong demand, and a very large business doing, principally in Cape Coast kinds, a large parcel of old stock being cleared at cheap rates. Sierra Leone has also been in good request; prices of good niggers have advanced 3d. per pound."

J. J. Fischer & Co., Limited, report Liverpool stocks:

	Dec. 31.	Jan. 31.	Feb. 28.	Apr. 30.
Pará: Fine...	612 tons	810 tons	797 tons	1082 tons
Medium	54 "	93 "	107 "	179 "
Negroheads.....	119 "	120 "	132 "	255 "
African	770 "	853 "	779 "	792 "
Peruvian.....	73 "	138 "	46 "	294 "
Mangabeira.....	430 pkgs	450 pkgs	430 pkgs	418 pkgs
Pernambuco.....	150 "	94 "	43 "	162 "
Ceará.....	1489 "	1672 "	1817 "	1156 "
Maniçoba.....	152 "	146 "	3 "	122 "
Assaree.....	404 "	404 "	451 "	495 "
Mollendo.....	14 "	—	25 "	6 "

London.

JACKSON & TILL, under date of May 1, report stocks:

	1901.	1900.	1899
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	172	128	72
{ Assam and Rangoon.....	38	21	32
{ Other sorts.....	631	456	385
Total.....	841	605	490
LIVERPOOL { Pará.....	1440	1880	890
{ Other sorts.....	1316	1467	749
Total, United Kingdom.....	3597	3952	2129
Total, April 1.....	3522	3104	1942
Total, March 1.....	2989	1917	1784
Total, February 1.....	3189	1848	1905
Total, January 1.....	2901	1855	2109

PRICES PAID DURING FEBRUARY.

	1901.	1900.	1899.
Pará fine.....	3/7 @3/11	4/1¼@4/3	4/2¼@4/5
Negroheads, Islands ...	2/1 @2/3½	2/4½@2/5	2/10
Do scrappy.....	2/6¼ @2/9½	@3/1½	3/5½
Bolivian	No sales.	@4/3	4/3@4/5

Hamburg.

THE tone of the Hamburg market for the past week was quiet generally, though prices were well maintained. This condition was caused by the inactivity of consumers on account of the near approach of the Antwerp inscription. Offers for forward delivery were few, though in good demand, and transactions moved within narrow bounds. Sales of Fine Pará and Bolivian spot were of minor importance, at 8.50@8.60 marks per kilogram, while Fine Mollendo was in better favor, owing to small receipts. Prices moved between 8.15@8.25 marks, with more orders than offers. A small lot of Fine Mattagrosso Virgin found ready sale at 7.40 marks. In the middle sorts the Africans received special attention, mainly Kassai, which was in great demand. All other sorts were dormant and partly un-

marketable, so much so as to exclude the necessity of detail. Sales during the week included:

	MARKS PER KILOGRAM.
Mozambique balls, prime.....@M	7.35@7.40
Mozambique balls, white.....	5.25@5.30
Black Congo Thimbles.....	5.20@5.25
Red Congo, second grade.....	3.35@5.40
Kassai niggers, prime red.....	5.80@5.85
Kassai, mixed red and white.....	5.50@5.60
Kassai, second, sandy, damp.....	4 00
Sierra Leone niggers, prime, damp.....	5 00
Batanza balls, prime	4.2c@4.25
Ecuador scraps, fine.....	5.90
Guatemala slabs, good.....	3.90

Hamburg, May 14, 1901.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The following sales by tender have taken place in this market: On May 9 a small sale when only 13 out of 60 tons were sold at about 3 per cent. lower prices than estimations, only a small number of buyers having made bids. On May 14, 254 tons, mostly Congo sorts, were exposed for sale, of which about 224 tons were sold. This relatively satisfactory result may be attributed to the buying orders sent by the United States, which bought the largest part of the catalogue. The sorts most in demand in the United States—such as Loporis, Haut Congo ordinaire, Uelé, etc., sold at estimations and in some instances 2 and 3 per cent. lower. For instance, Loporis sold at 7-47½ francs (estimated 7.75), Haut-Congo ordinaire at 6.80 francs (estimated 7), and at 7.15 francs (average estimated 7.35). Other sorts not desired for the United States were 5 and 6 per cent. lower. On the whole prices are 4½ per cent. below the April sale. The next sale will take place on June 10 and will amount to about 322 tons. The next steamer awaited from the Congo in a few days, brings about 300 tons. C. SCHMID & CO.

Antwerp, May 14, 1901.

EMILE GRISAR reports May 14: Stocks, 290,846 kilos; arriv- ing by the steamer *Stanleyville*, 282,978; total, 573,824 kilos.

ANTWERP RUBBER STATISTICS FOR APRIL.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stocks, Mar. 31. Kilos	843,834	735,060	253,569	178,564	119,011
Arrivals, April.....	613,368	507,911	447,919	173,757	147,966
Congo sorts.....	548,563	423,274	402,319	133,575	122,221
Other sorts.....	64,805	84,637	45,600	40,182	25,745
Aggregating...	1,457,202	1,242,971	701,488	352,321	266,977
Sales, April.....	643,384	421,151	180,185	166,075	121,509
Stocks, April 30....	813,818	821,820	521,303	186,246	145,468
Arrivals since Jan. 1	2,186,678	2,284,225	1,209,864	661,601	466,749
Congosorts.....	1,951,856	1,899,270	1,040,552	567,930	421,349
Other sorts.....	234,822	384,955	160,312	93,671	45,400
Sales since Jan. 1 ..	1,986,899	1,754,396	951,901	569,818	460,910

RUBBER ARRIVALS AT ANTWERP.

APRIL 25.—By the *Stanleyville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo)...	kilos 199,000
Bunge & Co. (Société Anversoise).....	115,000
Bunge & Co. (Plantations Lacourt).....	3,000
Bunge & Co. (la Djuma).....	7,000
Ch. Dethier (la Loanjé).....	2,000
Ch. Dethier (Société Belgika).....	16,000
M. S. Cols (Centrale Africaine).....	2,000
M. S. Cols (Ikelemba).....	3,200
M. S. Cols (Produits Végétaux du Kassai).....	4,000
Société Coloniale Anversoise (Belge du Haut Congo).....	3,700
Société Coloniale Anversoise (Süd Kamerun).....	750
Soc. An. pour le Commerce Colonial (Est Kwango).....	10,500
L. & W. Van de Velde (Comptoirs Congolais Velde).....	5,000
Société A B I R	38,500
Comptoir Commercial Congolais.....	9,000
J. P. Best & Co.....	9,000
	427,650

Bordeaux Arrivals.

APRIL 15 TO MAY 15.

Table listing arrivals from Bordeaux: Soudan sorts, Cassamance, New Caledonia, Java, Madagascar—Majunga, Gutta-percha. Columns include item name and weight in kilos.

The Soudan sorts sold readily at prices from 40 to 70 centimes higher than last month, according to quality.

P. CHAUMEL.

Mangabeira Rubber.

OTTO SCHLODTMANN, São Paulo, Brazil, reports shipments from that port as follows, all to Hamburg:

Table listing Mangabeira Rubber shipments: February—Theodore Wille & Co., Otto Schlodtmann; March—Otto Schloenbach. Columns include item name, quantity, and weight in kilos.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

April 27.—By the steamer Gregory, from Manáos and Pará:

Table showing imports from Para at New York for April 27, categorized by importer (Reimers & Co., United States Rubber Co., etc.) and weight in pounds.

May 10.—By the steamer Hildebrand, from Manáos and Pará:

Table showing imports from Para at New York for May 10, categorized by importer (Reimers & Co., United States Rubber Co., etc.) and weight in pounds.

PARA RUBBER VIA EUROPE.

Table listing Para Rubber via Europe arrivals from April 27 to May 11, categorized by steamer (Lucania, Germanic, Batavia, Etruria, Servia, Campania) and weight in pounds.

OTHER IMPORTS AT NEW YORK.

CENTRALS.

Table listing other imports at New York, categorized by steamer (Havana, Pennsylvania Railroad, Monte) and weight in pounds.

Table listing various rubber companies and their weights: Crude Rubber Co., Boston Rubber Shoe Co., Albert T. Morse & Co., etc.

May 13.—By the steamer Polycarp, from Manáos and Pará:

Table showing imports from Para at New York for May 13, categorized by importer (Reimers & Co., United States Rubber Co., etc.) and weight in pounds.

May 15.—By the steamer Grangense, from Manáos and Pará:

Table showing imports from Para at New York for May 15, categorized by importer (Reimers & Co., Crude Rubber Co., etc.) and weight in pounds.

May 23.—By the steamer Lisbonense, from Manáos and Pará:

Table showing imports from Para at New York for May 23, categorized by importer (Reimers & Co., Crude Rubber Co., etc.) and weight in pounds.

[NOTE.—The Hubert, from Pará, was due at New York May 28, with 225 tons of rubber. The Bernard left Pará May 25 with 220 tons for New York.]

CENTRALS—Continued.

Table listing Central Rubber imports via Europe, categorized by steamer (City of Washington, El Mar, Protus, Alleghany) and weight in pounds.

CENTRALS—Continued.

Table listing Central Rubber imports via other routes, categorized by steamer (Altai, El Rio, El Mar, Seguranca) and weight in pounds.

CENTRALS—Continued.

MAY 20.—By the *Jeanne*=Trinidad:
Thebaud Brothers, Angostura Fine. 6,200
Thebaud Bros., Angostura Coarse.. 2,000 8,200

AFRICANS.

APRIL 25.—By the *Teutonic*=Liverpool:
George A. Alden & Co. 27,000
Crude Rubber Co. 27,500
Reimlers & Co. 27,000
Livesey & Co. 4,500 86,000

APRIL 27.—By the *Graf Walderssee*=Hamburg:
Livesey & Co. 11,500
Reimlers & Co. 8,500 20,000

APRIL 27.—By the *Lucania*=Liverpool:
Reimlers & Co. 17,000
George A. Alden & Co. 25,000
Robinson & Tallman. 27,000
Livesey & Co. 3,000 72,000

APRIL 29.—By the *Fernfield*=Lisbon:
Reimlers & Co. 113,000
A. T. Morse & Co. 22,500 135,500

APRIL 29.—By the *La Bretagne*=Havre:
O. G. Mayer & Co. 10,000

APRIL 30.—By the *Friesland*=Antwerp:
A. T. Morse & Co. 143,000
George A. Alden & Co. 40,000
Reimlers & Co. 22,500
William Wright & Co. 13,500
Robinson & Tallman. 7,000
O. G. Mayer & Co. 4,500 230,500

MAY 1.—By the *Caledonian*=Liverpool:
A. T. Morse & Co. 13,500

MAY 3.—By the *Germanic*=Liverpool:
George A. Alden & Co. 17,000
Crude Rubber Co. 17,000
Reimlers & Co. 15,500
Livesey & Co. 8,000 57,500

MAY 4.—By the *Dona Amelia*=Lisbon:
Reimlers & Co. 91,000
William Wright & Co. 14,000
O. G. Mayer & Co. 11,000 60,000

MAY 6.—By the *Batavia*=Hamburg:
Reimlers & Co. 41,000
A. T. Morse & Co. 34,000
Livesey & Co. 9,000
Robinson & Tallman. 2,500 86,500

MAY 6.—By the *Etruria*=Liverpool:
Reimlers & Co. 62,000
Robinson & Tallman. 57,500
Livesey & Co. 7,500 127,000

MAY 6.—By the *Maasdam*=Rotterdam:
Reimlers & Co. 143,000

MAY 8.—By the *Southwark*=Antwerp:
George A. Alden & Co. 265,000
Crude Rubber Co. 175,000
Otto G. Mayer & Co. 19,000
Joseph Cantor. 5,000
Reimlers & Co. 3,500 467,500

MAY 9.—By the *Majestic*=Liverpool:
George A. Alden & Co. 50,000
Crude Rubber Co. 50,000
Livesey & Co. 11,000 111,000

AFRICANS—Continued.

MAY 9.—By the *Servia*=Liverpool:
Reimlers & Co. 64,000
Robinson & Tallman. 22,500 86,500

MAY 10.—By the *Pennsylvania*=Hamburg:
Livesey & Co. 7,500
George A. Alden & Co. 2,500
Crude Rubber Co. 2,500 12,500

MAY 11.—By the *Campania*=Liverpool:
Robinson & Tallman. 27,000
George A. Alden & Co. 22,500
Crude Rubber Co. 22,500
Reimlers & Co. 5,500
Livesey & Co. 6,000 83,500

MAY 13.—By the *Georgian*=Liverpool:
George A. Alden & Co. 22,500
Crude Rubber Co. 22,500 45,000

MAY 17.—By the *Peninsular*=Lisbon:
George A. Alden & Co. 92,000
Crude Rubber Co. 90,000 182,000

MAY 20.—By the *Pretoria*=Hamburg:
A. T. Morse & Co. 22,500
Livesey & Co. 20,000
Robinson & Tallman. 6,500 49,000

MAY 20.—By the *Umbria*=Liverpool:
Crude Rubber Co. 34,000
Robinson & Tallman. 33,000
Kramrisch & Co. 22,500
A. T. Morse & Co. 11,500
George A. Alden & Co. 11,500
Reimlers & Co. 2,500
Livesey & Co. 2,500 115,500

MAY 23.—By the *Teutonic*=Liverpool:
George A. Alden & Co. 37,000
Crude Rubber Co. 11,000
Kramrisch & Co. 8,000 56,000

MAY 23.—By the *Kensington*=Antwerp:
Livesey & Co. 5,500

EAST INDIAN.

APRIL 22.—By the *Buceros*=Calcutta:
William Wright & Co. 2,500

MAY 6.—By the *Batavia*=Hamburg:
Robinson & Tallman. 13,500

MAY 9.—By the *Folmina*=Singapore:
William Wright & Co. 24,000
W. R. Russell & Co. 11,500
George A. Alden & Co. 9,500 45,000

PONTIANAK.

MAY 11.—By the *Campania*=Liverpool:
Kramrisch & Co. 6,500

GUTTA-PERCHA AND BALATA.

MAY 6.—By the *Batavia*=Hamburg:
R. Seltau & Co. 7,000

MAY 20.—By the *Taurie*=Liverpool:
R. Crooks & Co. 7,500

GUTTA-PERCHA—Continued.

BALATA.

APRIL 29.—By the *Minnehaha*=London:
Earle Brothers. 2,500

APRIL 29.—By the *Ronald*=Trinidad:
George A. Alden & Co. 1,500
Middleton & Co. 500 2,000

MAY 20.—By the *Jeanne*=Trinidad:
George A. Alden & Co. 2,000

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—APRIL.

Imports:

	POUNDS.	VALUE.
India-rubber.	7,086,495	\$3,893,850
Gutta-percha.	32,403	17,840
Gutta-jelatong (Pontianak)....	.....	.....
Total.	7,118,898	\$3,911,690

Exports:

	POUNDS.	VALUE.
India-rubber.	91,717	\$66,378
Reclaimed rubber.	121,150	16,493
Imports of Rubber Scrap.	279,755	\$23,538

BOSTON ARRIVALS.

	POUNDS.
MARCH 30.—By the <i>Storm King</i> =Antwerp: Reimlers & Co.—African.	61,440
APRIL 1.—By the <i>Michigan</i> =Liverpool: Reimlers & Co.—Course Para.	31,988
APRIL 9.—By the <i>Winnifredian</i> =Liverpool: Livesey & Co.—African.	1,357
APRIL 9.—By the <i>Southwark</i> =Antwerp: Reimlers & Co.—African.	30,957
APRIL 12.—By the <i>Sagamore</i> =Liverpool: Reimlers & Co.—African. 13,088 George A. Alden & Co.—African. 11,584 24,672	
APRIL 22.—By the <i>Sachem</i> =Liverpool: George A. Alden & Co.—African.	11,115
APRIL 26.—By the <i>Sylvania</i> =Liverpool: Reimlers & Co.—African.	20,243
APRIL 27.—By the <i>Zealand</i> =Antwerp: O. G. Mayer & Co.—African.	16,711
APRIL 29.—By the <i>Devonian</i> =Liverpool: George A. Alden & Co.—African.	13,751
Total.	\$212,234

[Value, \$114,377]

GUTTA-PERCHA.

APRIL 2.—By the *Teutonia*=Hamburg:
George A. Alden & Co. 3,250

APRIL 2.—By the *Cestrian*=Liverpool:
George A. Alden & Co. 2,250

Total. 5,500

APRIL EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co.	85,090	13,292	55,467	141	153,990	39,593	7,573	14,920	15,000	76,996	230,986
Frank da Costa & Co.	171,838	21,626	68,056	2,749	264,269	10,540	2,040	21,285	—	33,865	298,134
Adelbert H. Alden.	37,500	7,086	27,900	2,178	74,664	—	—	—	—	74,664	171,995
Rudolf Zietz.	13,440	6,952	1,077	—	21,469	36,379	9,538	17,826	2,588	66,331	87,800
The Sears Pará Rubber Co.	112,670	15,053	43,985	287	171,995	—	—	—	—	—	171,995
Singlehurst, Brocklehurst & C.	—	—	—	—	—	12,924	1,780	1,921	18	16,643	16,643
Kanthack & Co.	—	—	—	—	—	8,863	2,346	2,044	—	13,253	13,253
Denis Crouan & Co.	—	—	—	—	—	11,220	1,700	6,720	—	19,640	19,640
R. Suarez.	—	—	—	—	—	620	140	110	—	870	870
Pires Teixeira & Co.	8,985	1,530	2,056	1,330	13,901	—	—	—	—	—	13,901
Direct from Iquitos.	—	—	—	—	—	18,623	2,461	13,235	57,044	91,363	91,363
Direct from Manaós.	663,041	138,339	207,019	222,789	1,231,188	220,537	43,800	75,951	248,960	589,248	1,820,436
Total for April.	1,092,564	203,878	405,560	229,474	1,931,476	359,209	71,378	154,012	323,610	908,209	2,839,685
Total for March.	1,521,789	380,985	568,491	332,491	2,803,756	955,590	224,615	375,552	576,700	2,132,457	4,936,213
Total for February.	1,015,987	278,004	549,566	251,815	2,095,372	789,338	198,350	306,855	154,519	1,449,062	3,544,434
Total for January.	577,296	119,433	420,279	53,772	1,070,780	656,333	116,246	252,554	120,064	1,145,197	2,315,977



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A NEW TENDENCY IN THE INDUSTRY.

FROM its beginning the manufacture of rubber goods in the United States was divided into a variety of lines, each fairly complete in itself, and, as a rule, involving no knowledge of any other. For example, in a factory producing rubber footwear, little was known about the compounds, machinery, or processes employed by a factory producing clothing, mechanical rubber goods, sundries, and so on, nor did the selling force in one branch of the industry know anything at all regarding the sales methods employed in the other lines of rubber manufacture. The one notable exception to this rule was the National India Rubber Co. (Bristol, Rhode Island) which, during its palmy days, made goods in nearly all of the important lines.

Most of the American manufacturers criticised such an aggregation as tending to confusion. Their motto was the ancient one "Cobbler stick to your last"—meaning the specific line on which the factory was first started.

In marked contrast to this custom is that of the most successful European manufacturers, who make nearly everything in hard and soft rubber under one roof, and are willing to take small orders for anything that a customer may desire.

Within the last two years there has been apparent a change in the attitude of the American rubber manufacturers. It was first shown by the general desire on the part of the leaders to inform themselves fully regarding the market for all kinds of rubber goods. Sooner or later this has been followed by the addition of some line that has seemed at first blush to be entirely foreign to their experience, and often not in keeping with their organization or equipment. In few cases, however, have these added departments proved anything but profitable, and in certain instances they have grown so as to overshadow the original business. Instead of devoting a factory to some single rubber product, the tendency, particularly in the mechanical and sundries trades, is to be equipped both with knowledge and courage to grapple with any problem in either rubber or Gutta-percha that may show a profit.

This does not mean that in the immediate future every rubber factory will make a complete line of staples in all divisions of the rubber manufacture, but it does point to a definite forward step. Until a manufacturer is fairly familiar with all of the manipulations of rubber that are employed in all lines he is not equipped to get the best results in his own. Nor can he secure such knowledge in its best form unless he himself does such manipulation for dollars and cents.

The addition of Gutta-percha goods, Balata specialties, hard rubber, shoes, dress shields, insulated wire, and a host of other lines to factories that in the past have produced only mechanical goods, sundries, or clothing promises not only an added profit to the manufacturer, but the development of new ideas and a definite broadening of trade knowledge. Besides, it may often afford an opportunity, when trade in one branch is dull, to keep the factory employed profitably on another line of goods.

ONE DRAWBACK TO THE EXPORT OF RUBBER, from every part of the world in which it is now found in paying quantities, has more influence than any other consideration in keeping this a high priced commodity. To be more exact, the trouble is not so much in the shipment of rubber from the countries of production as in getting to the rubber camps the necessary subsistence stores for the workers. This condition is particularly true of Bolivia, in which country are to be found to-day probably the richest of all rubber forests, with more favorable climatic conditions for rubber gathering, and a more desirable class of native labor than exists in the Amazon valley. Rubber not being perishable, and having a very high value as compared to weight, is particularly adapted for transportation from remote forests, but the opposite is true of food supplies and to an extent of clothing, implements, and other stores needed to equip rubber gatherers, and the difficulty of carrying these through the trackless forests in which rubber is found in Bolivia seems destined long to discourage the enterprise of outsiders in that direction.

THE MAN WHO SEES WITH HIS EYES SHUT has been measuring the product of the Mexican rubber tree, giving the results in the *Scientific American* of May 18. He says: "It was found that trees five years of age . . . yielded from 3½ to 4½ pounds of pure gum. Trees six years of age . . . yielded 4 to 5 pounds per tree, and from those trees seven years old . . . the yield was 6½ to 8½ pounds per tree. All these trees were cultivated in partial shade." It is to be regretted that the same observer did not include in his tests trees "cultivated" in total shade. He might have found that half grown trees, under such circumstances, would yield nearly a bale and a quarter of rubber. It is surprising how forgetful the authors of all these reports of heavy yields of rubber are, in the matter of supplying such details as will admit of their verification.

THE REPORT OF A GERMAN RUBBER FACTORY, on another page, has more space given to it, perhaps, than is warranted by the interest of a majority of the readers of THE INDIA RUBBER WORLD in the affairs of the particular company to which it relates. But from other points of view, we regard the matter well worth the attention which it receives at our hands. In the first place this is a specimen of the yearly business reports—though it may be more detailed than some—which the directors of twenty-one rubber companies whose shares are admitted to quotation on the German *börsen* make to their stockholders. Here is set forth the standing of practically all the accounts which figure on the company's books except the individual accounts with agents and customers. And not only are totals expressed in the balance sheet and the report of the year's operations, but a narrative report filling several printed pages explains the accounts written off and the inventories of raw materials and finished products, the various reserve funds, and so on, and points out what branches of business have been unprofitable, and in what respects there is promise of better returns next year. A certain amount of this detail, it may be said, is required by law, but the law is only the expression of the public sentiment that shareholders in a registered company are entitled to know what is being done by its directors. Moreover, these reports are of interest as indicating the caution that is shown, in regard to both fixed reserves and the reserves from year to year for possible depreciation—say in the value of inventoried stocks and of book accounts. The result of such management as shown in published share quotations is that, of the twenty-one companies, earning for the past business year an average of 11.41 per cent. on their share capital, the stock of only

three is quoted at less than par, while the average of the highest quotations during a recent week was 171.50 and the average of the lowest, 169.85.

THERE SEEMS TO BE SOMETHING ABOUT THE RUBBER BUSINESS conducive to longevity on the part of those who are engaged in it. Considering the comparative newness of the industry, the average age of the factories is surprising. There is a goodly number of men, too, still in the enjoyment of life, although their active interest in rubber dates back to the time of Goodyear's greatest activity. Not long ago we published a contribution from Mr. Hyatt, now in his eighty-first year, following close upon an account of Mr. Converse's celebration of his eightieth birthday. And in our last issue was reproduced an article relating to the work of L. Otto P. Meyer, who took a conspicuous part in the development of the hard rubber industry almost at its first inception. Though now in his seventy-ninth year, he still takes an interest in the progress of the rubber industry, at his home in Dresden, where, by the way, he at one time filled the post of United States consul, having acquired American citizenship while living in and about New York.

IT SEEMS EVIDENT not only that the more sparsely settled rubber countries must yet draw upon the outside world for labor, but that sufficient sources of supply will be found. For instance, the desirability of Hindoo labor has been pointed out, but the statement invariably is heard that Hindoos cannot leave their own country except under restrictive contract laws. A recent British government report, however, states that there are now 14,000 Hindoos in Jamaica, 83,000 in Trinidad, and 118,000 in British Guiana, among all of which only 13,000 are held under labor contracts. There is currently reported a lack of labor in portions of Mexico for new enterprises. Recently the *San Francisco Call* mentioned the incorporation in that city of a steamship company, having for one of its objects the colonization of Oriental laborers on a large scale in Mexico.

RUBBER WATERPROOFING IN ECUADOR.

A LETTER TO THE INDIA RUBBER WORLD from a camp on the line of the railway now being built between Guayaquil and Quito, Ecuador, says: "Opposite the camp is the *hacienda* of an Ecuadorian, where I have to-day for the first time seen rubber gathered. He has an immense property but does not himself know how many rubber trees he has. He has a great many, however, and the rubber he collects is sent to Guayaquil. I bought from him a *poncho* for use in riding. The cloth is of very fine quality, and the rubber is applied to one side in layers, making the best waterproof article I ever saw. I also bought from a native a pair of riding breeches, made by spreading rubber between two thicknesses of cloth, after which the cutting out was done and the trousers made up. It would be a striking novelty to exhibit in a New York rubber store. The owner of the *hacienda*, whose family are in Chile, wants to sell the property, which is rich not only in rubber, but in Peruvian bark and ivory nuts."

THE INDIA RUBBER WORLD has been applied to, through the consulate of Salvador at New York, for information bearing upon the suitability of the Ceará rubber tree for cultivation in that republic. A late issue of the Salvador *Boletín de Agricultura* prints an advertisement of Ceará rubber seeds for sale in San Salvador, and also mentions the planting at San Miguel of seeds of *Sapium biglandulosum*, an important rubber tree of Colombia.

LITERATURE OF INDIA-RUBBER.

THE BOLIVIAN ANDES. A RECORD OF CLIMBING AND EXPLORATION in the Cordillera Real in the years 1898 and 1900. By Sir Martin Conway. Illustrated. New York and London: Harper & Brothers, 1901. [8vo. pp. ix+493+54 photogravures. Price \$3.]

ALTHOUGH having for its chief purpose the recording of the work of a scientific explorer, this book is far from being a collection of dry facts. The author, who is one of the most eminent of mountain climbers, has succeeded admirably in "taking the reader with him along the road," letting him see what appeals to the eye of the experienced traveler who comes into a new country, and withal imparting to him the enthusiasm which sustains one in the most trying situations. Apart from the interest of the book as a narrative of travel, and its contribution to geographical knowledge, it is particularly informing in regard to the resources of a little known country and in regard to the conditions of life there. Bolivia is larger than any country in Europe, except Russia, and possesses many forms of natural wealth, but its landlocked position has kept the country in a singularly backward state. It appears inevitable, however, that the success of the few enterprising foreigners who have settled in Bolivia will lead to a marked growth in their number. "When the people come," writes our author, "the wealth that they may take out of the ground is almost limitless. There hardly exists in the world an area by nature richer, or more beautiful, or better adapted for colonization by white men than this splendid belt of the north-eastern foothills of the Cordillera Real."

A chapter is devoted to "The Rubber Industry," which Sir Martin Conway deems capable of great expansion. The government is anxious to attract foreign capital, in order that the rubber and other resources may be developed, and he believes that investments would be protected. The rubber territory described particularly is that in the upper Beni river region, the production of which is known commercially as "Mollendo" rubber. It is interesting to note that Sir Martin identifies the rubber tree here as the *Hevea lutea*, which may account for the difference between Mollendo and the best Pará rubber, which is understood to be derived chiefly from the *Hevea Brasiliensis*. The rubber from this district goes via Sorata, at the foot of a mountain by the same name, which locality our author regards as the "portal to a great gold region, not improbably as rich and important as the Rand," and destined to attain world renown. Whatever other resources may be utilized will have a favorable influence upon opening the country to rubber gatherers, and it is encouraging to learn how well the native population is adapted for the labor required.

IN CURRENT PERIODICALS.

RUBBER in Mexico. By James Maunder. [Relates to making nurseries.]=*Indian Gardening and Planting*, Calcutta. VIII-20 (May 16, 1901.) p. 356.

A Facial Restoration with Vulcanite. By J. A. Heidbrink. Illustrated.=*The Dental Register*, Cincinnati. LV-5 (May 15, 1901.) p. 249-251.

Rendement en Caoutchouc du *Manihot Glaziovii* (Ceará). [Estimates on proposed cultivation of this species in French Guinea.]=*Revue des Cultures Coloniales*, Paris. VIII-70 (February 5, 1901.) pp. 77-79.

Une Mission Agricole en Extrême Orient. By Ed. Prud'homme. [Relates to planting enterprises in the East Indies, including experiments with Caoutchouc and Gutta-percha.]=*Revue des Cultures Coloniales*, Paris. VIII-78 (June 5, 1901.) pp. 321-336.

Rubber Planting in the West Indies. By J. H. Hart, F. L. S., superintendent, Royal Botanic Gardens, Trinidad. [Paper read before the agricultural conference held in Barbados, January 5, 1901; illustrated.]=*West Indian Bulletin*, Barbados. II-2 (1901.) pp. 100-113.

OTHER PUBLICATIONS RECEIVED.

COMPILATION OF NOTES ON THE MOST IMPORTANT TIMBER TREE Species of the Philippine Islands. Prepared by Captain George P. Ahern, 9th U. S. Infantry, in charge of the Forestry Bureau Manila, P. I. [Flexible leather. Small 4to. pp. 112+43 colored plates. Price \$3 gold.]

THIS is the most ambitious publication to date of the forestry bureau at Manila, and gives further evidence of the activity of Captain Ahern in attempting to make available the abundant timber resources of the Philippines. The book was produced at Manila, and its appearance in every detail is creditable to those concerned in the work. We hope that by the time another volume is ready for publication by the Manila forestry bureau, it will be possible to include in it some more definite information regarding India-rubber than is contained in this.

THE WEST-AFRICAN YEAR-BOOK, 1901. LONDON: THE WEST AFRICAN Publishing Syndicate, Limited, 1901. [Cloth. 8vo. pp. xvi+306. Illustrated. Price, 5 shillings, net.]

IT does not require an extended examination of this book to indicate the value, to all who are engaged in the African trade, of the character of information which it contains regarding financial, commercial, mining, and industrial interests in British West Africa. Of course it is desirable that, in such a reference book, the data given should be recent and accurate, and we believe that in these respects the volume before us leaves nothing to be desired. The statistics of India-rubber contain everything that is available from any authentic source for a series of years back, and the other information contained in this "Year-Book" will possess more or less interest for the rubber trade because of the light which it throws upon the general development of West Africa, all of which assists in the expansion of the rubber output.

SHADE IN COFFEE CULTURE. BY O. F. COOK [BULLETIN NO. 25. United States Department of Agriculture, Division of Botany.] Washington: Government Printing Office, 1901. [Paper. 8vo. 79 pp. +16 plates.]

THE conclusions of this writer point to the question of shading coffee as one to be decided by local conditions, shade being a necessity in some localities, while positively harmful in others. Mr. Cook considers in detail the characteristics of all the various trees and plants which have been tried for coffee shade, and is of the opinion that neither the *Castilloa elastica* nor the Ceará rubber tree is suitable for this purpose.

INDUSTRIAL Chronology of the Commonwealth of Massachusetts. [Part I. Report for 1900, Statistics of Manufactures.] Boston: 1901. 8vo. 60 pp.

National Association of Manufacturers. Annual Report of the President, presented at the Sixth Annual Convention, Detroit, June 4-6, 1901. 8vo. 24 pp.

Population of the United States by States and Territories, Counties, and Minor Civil Divisions. Twelfth Census, 1900. Report on Population, Part I. Washington: Government Printing Office, 1901. 4to. xv+480 pp.

THE "SOLICUM" SUBSTITUTE.

THE United States consul at Copenhagen writes to his government: "This office is deluged with letters from American manufacturers in regard to a report emanating from Bergen, Norway, to the effect that a chemist of Copenhagen had discovered a process for manufacturing out of asphalt a material called 'Solicum,' which serves as a substitute for rubber. No process has been patented or discovered in Denmark for manufacturing such a material out of asphalt. A chemist named C. A. R. Steenstrup has recently patented a process for making solicum from old rubber and oil. Its efficiency as a substitute for pure rubber has yet to be demonstrated." The discovery of "Solicum" had previously been announced by another United States consul.

THE PICKETT PNEUMATIC VALVE.

SOME recent demonstrations which have been made of the Pickett All-Rubber Valve, in some of the leading tire factories in the country, have brought it into such favor with manufacturers that the new invention seems assured of a very wide adoption. The various advantages of this valve have been referred to already in THE INDIA RUBBER WORLD, but the point has not been made definitely, hitherto, that it is as applicable for all the forms of double tube tires now on the market as for single tubes.

One fact which commends the Pickett valve particularly is the readiness with which it may be applied to tires which have become damaged through the tearing out of the ordinary stem valve. Hitherto tires which have reached this condition have, as a rule, had no further value except for scrap. The cost of putting in new stem valves is heavy, and the result not always satisfactory. The use of this new all-rubber valve would enable the manufacturer to save every torn tire returned to the factory for replacement. It is only necessary to cut off the old-fashioned metal valve, patch up the hole (the patch, of course, being concealed by the rim will not show) and then the tire is ready for the insertion of the rubber valve, which as before stated, is inserted just as though it were a plug, and with the same facility. It is then, of course, a new tire, and may be sold as such,

So far as the tire repair trade goes, the same conditions apply. This new rubber valve can be inserted just as though it were a plug, and with the same facility. This will enable repair men, when tires are given them out of which the old-fashioned metal valve has been torn, to replace this metal valve with a new rubber valve at probably the same price paid to them for their work, but at a very greatly reduced cost to the repair man himself for the materials used in this work. In case by any accident the Pickett valve should become injured, the small opening in the tire which it occasions can readily be plugged, and a new valve inserted, in another part of the tire, by any repair man, in a few minutes, and at a very trifling cost for materials.

The Pickett Two-Part Valve has been applied successfully to football bladders, for which purpose it is found to possess many advantages.

The inflation of footballs by means of the ordinary rubber stem is not always an easy task, nor is the re-



sult all that could be desired. At best, the doubling up of the stem beneath the outer cover gives the ball an uneven shape which interferes often with good play. And in order to inflate a ball by the old method it is necessary to open wide the slit in the cover, and difficult to lace it again, particularly if the ball be inflated hard. There have been valves designed to take the place of the stem, but they had the disadvantage of being composed in part of metal, and it is true in footballs, as in bicycle tires, that metal and rubber valve parts will not work together. The Pickett Valve, however, being composed wholly of rubber, is more reliable and more durable in service than any metal valve, and more easily worked. With the Pickett Valve, a football may be inflated with a bicycle pump, or with a simple and specially designed inflater, and when the bladder has been inflated, the cover can be more easily laced, and the football will present a better shape, than has ever been the case hitherto. With this valve, a smaller slit in the cover is

sufficient, and it is possible often to reinflate a ball by unlacing it very slightly, no opening in the cover being required other than for admitting the point of the inflater.

SENATOR DR. HEINRICH TRAUN.

THE election of Dr. Heinrich Traun, proprietor of the Harburg Rubber Comb Co., to the position of senator of the free city of Hamburg—mentioned in the last INDIA RUBBER WORLD—is spoken of in the German press as having given great satisfaction to the people of Hamburg, with whom the new senator is an exceptional favorite. The *Neue Hamburger Zeitung* says, editorially: "We greet with sincere pleasure the selection made [of Dr. Traun] and we do so from a double point of view. First, the personality of the man elected, his sphere of activity in the past, and the general high esteem which he has been able to earn, are a sure guarantee that in this, the highest honorary office of our state, he will act for the benefit of all. Secondly, we rejoice that by this election a new principle in the composition of the senate has been introduced. In the new senator we possess a distinguished expert in chemistry and large industrial pursuits. Our Hamburg industry has thus obtained, for the first time, a seat and vote in the senate, which means the fulfilment of a demand that has become more pressing every day in modern times."

Dr. Traun was born in Hamburg in 1858. He attended the college of Dr. Wichard Lange, after which he was prepared for the university by private tutors. He studied the physical sciences in Göttingen, and was graduated at the age of only 21 as a doctor in philosophy, choosing "Kautschuk" as the subject of his thesis. Going to London, he worked as a chemist in the royal dockyards, and had an opportunity to come into contact with laboring men at their work. Later he was employed in Paris, after which he entered the Hamburg rubber factory of his grandfather, H. C. Meyer, Jr. After fifteen years of working together, grandfather and grandson separated, Mr. Meyer retaining the cane (stick) business and Dr. Traun the rubber branch, which latter has been developed on a very large scale. By the way, Dr. Traun is a nephew of Mr. Carl Schurz, who is so well known in America, Mr. Schurz having married a sister of Dr. Traun's mother. Dr. Traun suffered a deep bereavement in November last in the death of his wife, who took a special interest in the benevolent institutions organized for the benefit of the employes of the Harburg factories.

THE inspection department of the Associated Factory Mutual Fire Insurance Companies (No. 31 Milk street, Boston) send us a pamphlet [4¾" × 7¼". 28 pages] containing specifications for Underwriters' rubber lined cotton fire hose and unlined linen fire hose, adopted August 20, 1900, together with lists of approved brands of such hose and the names of manufacturers, including *fac similes* in color of the trade mark of each. It will prove useful at every factory where mill hose is bought for fire protection.

THE postoffice department received bids at Washington until 2 P. M., on May 2, for supplies for the postal service—including rubber goods—for the fiscal year beginning July 1. It might be supposed that, with the constant growth of the service, the demand for rubber goods would increase, but such seems not to be the case. For example, in 1899 the advertisement called for 9000 pounds of rubber bands; in 1900 the requisition was for 8250 pounds; and this year the same figures appear. As for the other items in rubber, the details are practically the same as for two years past.

THE MANUFACTURE OF RUBBER HOSE—A REVIEW.

By Richard A. Leigh.

IT is interesting to note the attempts that have been made since 1861 and up to the present time to improve the methods used in the manufacture of rubber hose, and particularly to find that at the present time about the only noteworthy improvement made is in the use of the machine for wrapping the fabric around the inner tube.

Many inventors have devised methods and machines for the production of hose composed of fabric and India-rubber, but none of them, up to the present time, has been adapted in any form for the purpose it was devised for. The more important of these improvements will be found to be those practised by Thomas J. Mayall and fully described in his specifications in Patent No. 31,552, issued February 26, 1861, and Patent No. 88,887, dated April 13, 1869, and that of Coles, Jacques and Fanshaw, issued in England August 17, 1864, and allowed in the United States October 20, 1868, as No. 83,132.

It can be shown that the mechanical construction prior to these patents was the same as that in use to-day, with the exception of the wrapping machine taking the place of hand-wrapping, or, in other words, the plies of fabric were wound around the tube by hand instead of by machine. It must be borne in mind that we are not discussing compounds and fabrics, but only methods of construction as practiced in the art of hose manufacture, where various kinds of fabrics, coated with India-rubber, are made up in tubular form and vulcanized together. Mayall says that the great difficulty to be overcome in his day was to make a hose of sufficient strength to resist any great pressure and at the same time not have it bulky and clumsy.

To accomplish this he made up a tube of India-rubber in the usual way and, after placing it over a mandrel or pole, wound around it several layers of twine wire or other suitable thread. It was then covered with an outer tube of India-rubber and vulcanized in the usual manner.

It is evident that at this early date it was seen by Mayall that the most successful hose would be that which contained the maximum strength with the minimum weight, or further, that his method of winding threads would place the strength where it was most needed to resist the pressure of fluids, viz.: in a transverse direction, as threads so wound would receive the strains and pressures in the direction of the length of their fibers and thus could sustain the greatest force without breaking.

In his further experiments it is evident that some difficulty had been experienced with this type of hose elongating, in consequence of which we have his patent No. 88,887, dated April 13, 1869, in which he describes the use of longitudinal binders of thread, wire, or narrow strips of cloth fastened to the periphery of the tube along its whole length, combined with strands or threads wound around the binders in the manner described in his prior invention.

Both of these types of hose were made up in the primitive way of the times, and if any attempt at devising a machine for its production was made no record of it exists. It is apparent that the attempted change in methods of construction was never used to any extent by Mr. Mayall, but the idea of winding threads by machinery for the production of a practical hose for commercial use was first made possible by Coles, Jacques and Fanshaw, of Tottenham, England. There is ample proof that

they did for a number of years manufacture in the factory of Wm. Warne & Co. (London) a large amount of this so called "Volute" hose, and that it gave excellent service and was profitably conducted.

The manufacture of this Volute hose is best described as follows: It consisted of covering a rope of suitable size with a sheet of India-rubber and winding around it by the machine a number of layers of threads, each layer being wound in an opposite direction and being coated with a solution of India-rubber. When a sufficient number of layers or plies of thread had been wound on, an outer covering of India-rubber was then applied and the piece was ready for vulcanization.

I think a clear idea of the machine's operation can be obtained from the following description: It consists of a framework supporting a hollow shaft upon which are mounted loosely two disks or wheels, on which are mounted in suitable bearings a series of bobbins provided with a supply of yarn or threads which pass separately from the bobbins through holes or eyes in a circular plate mounted on stud pins fixed in the face of the disk so as to rotate therewith.

At the back of each disk or wheel is a pulley around which passes a driving band from another pulley on the sleeve shafts, which may be actuated in any convenient manner. The driving shaft carries a double acting sliding clutch, capable of being thrown into gear with either of the clutches on the inner ends of either of the sleeve shafts, so that either of the disks with their bobbins may be actuated and made to lay the threads round the core on which the tube is formed. This core passes through a hollow shaft and central holes in the disks. It can be seen that if the core be drawn through the tubular shaft and disks, and one of the latter be set in rotary motion by throwing the clutch on the main driving shaft into gear with the clutch on the end of the sleeve shaft corresponding to the disk and set of bobbins it is desired to rotate, then the threads from the bobbins will be laid helically round the core from end to end. When the entire length of the core has been covered in this manner it will be drawn back again through the disks and hollow shaft, and the other disks thrown into gear, when the threads from the bobbins of the second disk will be laid helically round the core in the opposite direction to the first layer of threads.

This method of construction, we find, went out of existence owing to the method of construction being too expensive to compete in price with the hose made of woven fabric and rubber, and yet, after being in use a number of years, and constructed by practical rubber mechanics, it seems to have left no impression in a mechanical way upon the manufacture of to-day. In fact, the most important feature in my mind—the angle at which threads or fabric should be laid to obtain the best results in hose—appears to have been lost entirely.

At the present time fabrics of a suitable weight and weave, intended for use in the manufacture of India-rubber hose, are first passed over hot drums so that all moisture may be dried out, and in this way prepared for the frictioning, which means the grinding into the pores or meshes of the fabric a suitable plastic composition of India-rubber and other materials used in its adulteration, by a machine known as a friction calender. This step is very important, as the quality of the friction often determines the value of hose as regards strength and weight, and

the best of compositions are only too often ruined by carelessness at this stage of manufacture.

In some of the best grades of hose a light coating of India-rubber is applied to one side of the fabric, after both sides of it have been frictioned, which, of course, gives it greater strength. In all well regulated factories a list showing the average weight of composition of various densities applied to each roll—or 120 yards—of fabric is kept, and used as a guide to good work on the friction calender.

We next find this frictional roll of fabric in the cutting room laid out on long tables and being cut on the bias, or at an angle of about 45°, in widths to suit the diameter and ply of hose into which it is to be made up. As these pieces are cut they are turned end for end and made into one continuous piece by overlapping the end of one piece on the other and so making a continuous length. This is done to give the hose its greatest strength in the direction of its length, so as to resist the pressure exerted on it by the passing of fluids through it under pressure.

This strip of fabric is then passed to the preparing or making up table and a long strip of sheet rubber wide enough to cover the outside circumference of the hose is attached to one side of the fabric along its entire length, so that when the fabric is rolled up in the form of hose it will be protected by an outer coating of India-rubber. The fabric is then ready to be wound around the inner tube of the hose, which has been pre-

pared by joining around a pole of suitable diameter a sheet of rubber cut wide enough to cover the outside circumference of the pole. This pole with the inner tube of rubber is placed in the winding machine, which consists of two rolls of the desired length, working parallel to each other and in the same plane, and a third roll which is so arranged that it may be raised or lowered at the will of the operator.

The fabric edge of the strip prepared as previously described is then attached to the tube along its entire length, and the third or movable roll of the machine is lowered so that it strikes the edge of the fabric when the operator puts the machine in motion, and the fabric is rolled around the inner tube with sufficient pressure to insure the adhesion of the component parts of the hose.

To prepare it for vulcanizing it is then wrapped around with wet strips of cloth, first with a strip rolled around its entire length, and then with one applied spirally with sufficient pressure to exclude all air and hold the parts of the hose under pressure while being vulcanized, after which it is placed in a boiler of a desired length and subjected to the required heat for any desired time to effect vulcanization. Upon the completion of the vulcanizing the cloth wrappers are stripped from the hose and air under pressure forced between the hose and the pole on which it was made, thus releasing the hose from the pole, when it is ready for inspection and shipment.

Bristol, Rhode Island, June 12, 1901.

THE DUNLOP TYRE CO.'S NEW PROCESS.

THE affairs of the Dunlop Pneumatic Tyre Co., Limited, were gone over very thoroughly by the chairman of the company, Mr. Harvey Du Cros, at a recent extraordinary general meeting held at Birmingham. The first business was the formality of confirming the purchase, by the Dunlop Rubber Co., of the Rubber Tyre Manufacturing Co., Limited, as from July 1, 1900—in both of which companies the Dunlop tyre company had control. The Dunlop people, as early as 1896, acquired a going rubber concern at Birmingham from the Byrne brothers, which was continued under the name of The Rubber Tyre Manufacturing Co., for making tires under the Dunlop control. Later in 1896 the Byrne Brothers India Rubber Co., Limited, was registered, and a new factory erected at Birmingham, which also was acquired by the Dunlop tyre company, who in time thought it advisable to change the name of the Byrnes works to the Dunlop Rubber Co., in order that all possible goodwill there was to the name might be realized on. The subscribed capital of the Rubber Tyre Manufacturing Co. was £120,000, for which the shareholders accepted £120,000 in debentures of the Dunlop Rubber Co., secured by all the property of the latter, including the Rubber Tyre plant. The Dunlop Rubber Co.'s indebtedness to the Dunlop Pneumatic Tyre Co. has been converted into stock in the Rubber company. It is the intention to manufacture all the rubbers for the Dunlop tires at the two Birmingham mills; also to close the Coventry works where Dunlop tires formerly were put together, and concentrate their whole tire making at Birmingham.

The keynote of these transactions may be found, perhaps, in some extracts from the address by Chairman Du Cros which follow:

"The most important reason for this purchase—although the others are all good—was the application of a new process. This process, which is very important, was brought under our

notice 2½ years ago. It was then, we considered, incomplete, and we have kept in touch with it from that day to this, and recently, whatever the Rubber company thought of it, we thought we saw our way to make it complete. The directors were careful to study the question practically; the Rubber company afforded us facilities for doing so, and we demonstrated at their own mill that it would suit our purpose.

"The acquisition of this process will effect further economy. Up to this time we have had great difficulty in using mechanical processes in our manufacture, because a strong point of our manufacture is that our tires were made by hand, and made very carefully, and that certain features were preserved through hand work. This process destroys none of the features that are peculiar to our tires through hand work; on the contrary, it will undoubtedly make the tire considerably better than anything we have ever made before, and considerably better than anybody else has ever made.

"We give practical effect to our belief in that, because when this manufacture is established it is the intention of the company to extend the guarantee of its tire, which was hitherto for twelve months. So confident are we of the results given by this process that we will extend the guarantee of the tire and make it, I think, more difficult for other persons to follow us. The purchase of this patent will give us an extension of an important patent of a manufacturing character—not a master patent in relation to the manufacture of tires, but a very important patent—till the year 1910, which is in itself of great importance.

"You might wonder why the Rubber company should part with such an important patent; but the reason is that the Rubber company could not work it without infringing our patent; so that, although it was exceedingly useful to us, it was of little or no use to them, and could not have been of use for some years to come."

To summarize: The Rubber Tyre Manufacturing Co. has been taken more closely under the Dunlop control because of its ownership of a patent, by means of which mechanical processes will take the place of hand work on tires, with such advantage in prospect as will enable the tire guarantee to be extended, and give the Dunlop interest a monopoly that will last eight years after the basic Dunlop patent has expired.

Mr. Du Cros also made a formal statement regarding the motor tire business. Hitherto the Dunlop company has not made motor tires, which cannot be made by hand, by their process, but machinery is being constructed to make such tires at Birmingham. Meanwhile automobilism was growing in the United Kingdom, and there was a demand for pneumatic tires, which could not be imported without infringing the Dunlop patent. Then, as Mr. Du Cros expressed it: "We authorized one of our licensees [The Clipper Pneumatic Tyre Co., Limited]

to import the manufacture of one particular French manufacturer, named Michelin, who has been successful. We have thus placed at the disposal of the automobile world the best tire that can be obtained to-day, and in the course of the next few months this company will, will, we hope, be making tires better than have ever been made before."

Finally there was a general discussion of the propriety of reducing the capital of the Dunlop Pneumatic Tyre Co., which is £5,000,000. The chairman pointed out that the company could not be considered over capitalized, if it could only defend absolutely the monopoly to which its patents entitle it. But the infringements are greater than ever—220 actions at law within six months on this account. The chair called for a vote on the question of the principle of reconstruction, stating that if it should be approved, the directors would consider the matter further. Only a half dozen hands were raised in the negative.

COMBINATION OF COTTON DUCK MILLS.

THE United States Cotton Duck Corporation filed articles of incorporation in the office of the secretary of state at Trenton, New Jersey, on June 4, being signed by Robert S. Green, Edward M. F. Miller, and Albert C. Wall. The object is stated to be the manufacture of cotton duck. The capital authorized is \$50,000,000, divided equally into 6 per cent. cumulative preferred and common stock. The principal office is stated to be at No. 55 Montgomery street, Jersey City. By this organization has been consolidated the principal cotton duck manufacturing plants of the country.

The new company has acquired through ownership of stock or by direct purchase, the Mount Vernon-Woodberry Cotton Duck Co., which was a consolidation of fourteen cotton duck mills with a capitalization of \$23,500,000, the Stark Mills of Manchester, N. H., La Grange Mills of La Grange, Ga., and the Hogansville Manufacturing Co. of Hogansville, Ga. In connection with these properties the new corporation will operate under contract, with option to purchase, the West Point Manufacturing Co., the Lanettee Dye Works and Bleachery, and the Riverdale Manufacturing Co., all of West Point, Ga. The company will operate 400,000 spindles. For the present purposes of the company, an issue has been made of \$16,100,000 in preferred and \$10,000,000 of common stock; total, \$26,100,000.

A meeting for organization was held on June 5, when a long list of directors was elected, who in turn, at a meeting held in New York, chose the following officers:

Chairman Board of Directors.—S. DAVIS WARFIELD, president of the Continental Trust Co., Baltimore.

President.—RICHARD CROMWELL, president of the Mount Vernon Woodberry Cotton Duck Co., Baltimore.

Vice Presidents.—J. SPENCER TURNER, of the J. Spencer Turner Co., New York; JAMES E. HOOPER, vice president of the Mount Vernon-Woodberry Cotton Duck Co., Baltimore; WILLIAM H. WELLINGTON, of Wellington, Sears & Co., Boston.

Secretary.—DAVID H. CARROLL, Baltimore.

Treasurer.—CHARLES K. OLIVER, treasurer of the Mount Vernon-Woodberry company, Baltimore.

Assistant Treasurer.—SIDNEY E. COOLIDGE, treasurer of the Stark Mills, Boston.

Executive Committee.—S. Davies Warfield, E. A. Brinkerhoff, Michael Jenkins, William H. Wellington, Henry A. Parr, Thomas M. Turner, Sigmund Lehman.

It is understood that the policy was outlined at the directors' meeting referred to, for the sale of the products of the mills. Under the plan the avenues for the sale of the goods manufactured by the company will be largely increased. The plan is very comprehensive and includes methods for the protection of all agents of the company.

It appears that much of the cotton duck output consumed in the rubber industry is not affected by the new combination. For instance, one of the large New England rubber companies, in the mechanical line, practically control the production of a duck mill which is not included in the new organization. Another mill which sells largely to the Trenton rubber factories also remains on the outside. J. & W. Lyall, of the "Brighton" cotton mills, in New York, who supply fabrics to the tire trade to such an important extent, remain independent. In the line of ducks used for rubber boots and in tennis goods, James S. Gary & Son, of Baltimore, are important producers, and they have not been included in the combine. It may be mentioned that special brands of ducks are used in the various branches of the rubber manufacture, and that mills catering to this trade conform their production to specific demands. At the same time the goods used are in many cases bought through commission houses, and some of the leading houses referred to as supplying the rubber footwear industry are intimately connected with the new United States Cotton Duck Corporation, though this fact does not prevent their handling the output of mills on the outside.

A manufacturer of carriage cloths said to a representative of THE INDIA RUBBER WORLD:

"Our purchases in ducks are confined almost wholly to commission houses. We understand they obtain a large proportion of their supplies from the south, although there is a considerable quantity of these goods manufactured in the north. Having dealt with the commission houses, I am not in a position to give you the names of the manufacturers of these goods. The quality of duck used in the manufacture of our carriage cloths is of a particular kind we have made to order, according to our own ideas. The present price of cotton ducks, as compared with a year ago, is about 2 cents less on the yard. We are buying these goods at 1½, 2, and 2¼ cents less than two years ago."

"America leads the world in the production of fine cotton duck," said a large wholesale dealer in the material. "There are now in the United States some twenty-five mills engaged in the manufacture of the goods. These concerns have a capital of \$20,000,000, and employ about 12,000 persons, who turn out a finished product valued at \$35,000,000 annually. American cotton duck is exported quite largely to Mexico and Central American states, and the West Indies. It is also shipped to Germany, France, and England."

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THIS company, whose chairman of directors, Mr. J. E. Baxter, is the chairman of the Rubber Manufacturers' Association, ranks now in the extent of its buildings and the magnitude of its trade with such firms as Macintosh's and Moseley's. Considerable extensions have been

LEYLAND AND
BIRMINGHAM
RUBBER CO., LIMITED.

carried out in late years and building operations on a large scale are still in progress. As the company has plenty of land at disposal lofty buildings have been abjured, the single story shed having been largely adopted as minimizing the labor in the movements of raw and partially manufactured material. A good deal of power is supplied by electro motors, and the works are lit by the electric light. Altogether there is a great deal about these works which might possibly be followed with advantage by other firms who exhibit a more conservative tendency in the adoption of modern procedure. Besides a large mechanical trade, surgicals—especially seamless teats—occupy a considerable manufacturing space, a fact which is reassuring, considering the inroads which foreign competition has made of late years upon the surgical business done by those firms in this country who make it a specialty. In spite of the somewhat Draconic rules and regulations which the workmen are required to observe, there are probably no works where greater harmony exists in the relations between master and man—a condition of affairs to which the tact and urbanity of Mr. Baxter largely conduce.

THESE works were sold by auction in Manchester, in the suburbs of which city they are situated, on May 21, the company never having recovered from financial difficulties growing out of the failure of a certain patent tire making machine, an American invention, to answer expectations. It is now some years since Mr. Worth left the employ of Messrs. Macintosh & Co. and, in conjunction with Mr. James Lee, of the Ancoats Vale Rubber Co., started the Droylsden works under the title of Worth & Co. Mr. Lee, however, gave up his interest in the concern after a short time and went to America, where he engaged successfully in the rubber manufacture. The conversion of the Worth company into the Droylsden Rubber Co., Limited, with a view primarily to exploit the machine referred to above, proved a bad speculation, as up to this time money had always been made at these works. Considering the land and machinery on offer, it cannot be said that Mr. Baxter, of the Leyland company, who ultimately became the purchaser, did badly with his final bid of £3550 as £5000 had previously been offered and refused.

DROYLSDEN
RUBBER
WORKS.

THE sensation of the Law courts, as far as our particular trade topics are concerned, has been the knocking over of the Pegamoid patent by Mr. Justice Joyce. An action was brought by Pegamoid, Limited, against the British Leather Cloth Manufacturing Co. of Newton, near Manchester, on the ground that the process used by the latter firm infringed the patent granted to Frederick George Annison in 1891 for impregnating textile bodies with a solution of celluloid. Mr. Edward Bevan's evidence, though given on behalf of Pegamoid, could not, however, stand the fire of cross examination as far as showing that there was any material difference between coating and impregnation with celluloid. The former process having been in operation prior to 1891, it was held by the judge that there was no infringement, and that there was

not sufficient to support the patent. It cannot be said that this decision has brought dismay into the minds of the shareholders, for they have long ago resigned themselves to their fate, but it is not very flattering to the supposed astuteness of those who advised as to the value of the patent at the time the company was brought. The late Mr. Joseph Moseley was very enthusiastic about Pegamoid and expected that great things would come of it; others, however, including chemists of repute, made no secret at the time the prospectus appeared, of their opinion that the patent as a patent was practically worthless, and predicted that if it proved at all valuable it would be successfully contested; the hypothetical clause of this opinion has not been substantiated, but the result prophesied has, as I have just shown, come to pass.

MOTOR-CAR owners, especially those to whom money is an object, have been gratified by the announcement of the North British Rubber Co. that they are prepared to make pneumatic tires to order at a price considerably lower than that asked by the Dunlop Pneumatic Tyre Co.

MOTOR
TIRES.

A prominent motor enthusiast tells me that he is going to give these tires a trial, to see how nearly they come up to the Michelin standard. Although the pneumatic tire has the greater number of adherents, the special tire made by Falconnet Perod-eaud et Cie., of Choisy-le-Roi (Seine), finds prominent supporters in this country. This firm had a large show of their tires in the machinery section at the late Paris exhibition. Their tire, at least that type which is to be seen in use in this country, is best described as a compound, as it embraces features of both pneumatic and solid tires. Compared with the pneumatic, it may be said the price offers no inducement to purchasers, its advantages in use, for which, however, I cannot personally vouch, forming the basis of attraction.

THERE is something rather improbable about the utility of the English patent of Messrs. Litel and Wolde, of Berlin, and in which it is proposed to eliminate noxious gases from the air of rooms by using orifices closed by diaphragms of Caoutchouc or "similar material." I cannot say anything about "similar material," which is a delightfully vague term, but I rather imagine that the rate of diffusion or osmosis will be found painfully inadequate for ventilating purposes, and if the gases present are really noxious I should imagine that the interests of those concerned would be best served by the opening of the door or window after the time-honored custom.

NEW
PATENT.

THERE are numerous evidences of the popularity of this packing. One of the largest cotton mill owners told me that he preferred it to anything of the sort which he had used. Messrs. Angus & Co., of Newcastle-on-Tyne, Leeds, etc., give it considerable prominence in the windows of their establishments, stating on the label that it will not deteriorate with age. Age, I suppose, is in this connection used comparatively, for the contention can hardly be put forward that it is indestructible. Brass filings figure among the rather numerous components of this packing, a fact that at first sight strikes one as rather singular, considering the well known destructive action of copper and its alloys upon rubber. The explanation of its innocuousness in this case is, however, no doubt due to the fact that the proportion of mineral matter present far exceeds that of the rubber, its power to do mischief

JENKINS
PACKING.

thus being largely neutralized. This does not, of course, afford any clue as to why the metal should be present and, in common with others, my curiosity on this head has been aroused. The attempts which have been made on this side with the purpose of producing a body of similar utility do not seem to have met with more than partial success, as far as I can gather.

THIS concern, which is only of moderate dimensions, represents the rubber manufacture as far as the Principality is concerned, the managing director being Mr. A. M. James. It is, I believe, the only rubber works where the brattice cloth business is carried on, though the two businesses have no real connection, as no rubber is used in the brattice cloth manufacture. The company have a large local demand for their goods in the surrounding colliery districts, the large colliery concerns in South Wales and Monmouthshire being in the habit of making yearly contracts for their requirements of rubber goods. The title of the company is not exactly in harmony with its geographical situation, but there is enough historical evidence for the inclusion of Monmouth among the Welsh counties to justify its adoption.

THESE works, where the manufacture of rubber machinery is carried on, have undergone considerable extension since their inception, on a modest scale, ten years ago, and it is probable that additional buildings will shortly be erected on adjoining land. Machinery for the cable manufacture is made a specialty, the firm being at present engaged on turning machines for the paper covered telephone circuits, among other work dealing with modern developments of the cable industry. The rise in favor of the high pressure vulcanizing presses, by which all tendency to blowing is eradicated, has been prominent in bringing business to the firm, the comparatively high first cost of these machines having been considered by prominent rubber manufacturers as of no particular moment compared with their attendant advantages.

IT has been asserted that pure rubber untouched by any manufacturing processes will remain sound for ever, and there seems no reason to attempt to disprove this assertion, bold though it be. It is impossible, I suppose, for any one to put his hand on a piece of rubber of a hundred or so years old, but it may not be uninteresting to mention that I have a piece of Pará seventy years old, of undoubted authenticity. It was originally in the possession of John Hancock at the time when the sole trade done consisted in selling small rectangular pieces as pencil mark erasers. Beyond having dried up to the toughness of leather the biscuit shows no signs of deterioration. If my memory does not deceive me, the samples of Pará rubber to be seen in the museum at Kew gardens, and which were presented by Charles Macintosh & Co., bear a date in the fifties, and so cannot rank with my own specimen in the way of forming an index to longevity.

IN the retail establishment, at Cardiff, of Messrs. Anderson, Anderson & Anderson, the well known London water-proofers, there is prominently a view in the window a large biscuit of Pará rubber which attracts a good deal of popular attention. The label it bears states that it is the largest ever imported, the weight being $6\frac{1}{2}$ cwt, and the value £140. With regard to the value, is not clear whether this relates to the market price at the time of purchase or any other time or to its supposed intrinsic value as a museum specimen. The point, however, is not one of the first importance, what seems of rather more interest is whether the assertion of the biscuit being the largest imported can be

sustained. Not that this is said in any way to impugn the veracity of Messrs. Anderson, but it is obviously impossible for an individual or a firm to be cognizant of everything that has occurred in a matter of this kind.

THERE seems to be a prevailing impression in England that Mr. J. Fletcher Moulton, K. C., the eminent patent counsel, is connected by family ties with the rubber works at Bradford-on-Avon. This, however, is not the case, and the reports that his intimacy with the intricacies of cycle tires has been gained in the above works is quite groundless. The firm have never gone in for the tire business, mechanical rubbers, more especially with regard to railway requirements, having engrossed nearly all their attention. The one Mr. Moulton who now remains connected with the company does not take a very active part in the business, living a life of comparative quietude in the beautiful old manor house which was reproduced in the street of nations in the Paris exhibition last year as a prominent type of British architecture. The workmen of this firm being in receipt of good wages, have the local reputation of affecting superiority over such of their fellow townsmen as earn their living in the one or two textile establishments which still exist in this once famous cloth center. Certain facts which are in my knowledge with regard to this matter might prove instructive to people in high places whose limited acquaintance with people outside their own set has led them to express surprise that social distinctions exist in the community of toilers. With regard to the rubber operatives in our large industrial centers, it is probably due to financial considerations as well as to the somewhat unlovely nature of their home surroundings that little is heard of any pretension to social superiority.

NEW TRADE PUBLICATIONS.

THE new illustrated catalogue and price list of the BEACON FALLS RUBBER SHOE CO. (Beacon Falls, Connecticut) marks a new departure in the style of this company's trade publications. The pages being more than twice as large as formerly, admit of the use of larger illustrations than are usual in rubber shoe catalogues, and, in some cases, of more descriptive matter on the same page with the cuts. The make up of this catalogue is exceptionally good, in every respect, and a feature which has not been seen in any other catalogue is the illustration of the various styles in pairs, instead of showing only a single boot or shoe, as has been the custom. With such attractive pictures, it would not be surprising if, in time, people should be tempted to buy rubbers without regard to weather conditions. [7"×7". 46 pages.]

THE BOSTON RUBBER CO. OF MONTREAL, LIMITED, are sending out a handsome trade publication, in their "Illustrated Catalogue" of rubber boots and shoes, 1901-02. [$3\frac{3}{4}$ "× $6\frac{3}{8}$ ". 68 pages.]

JOSEPH DIXON CRUCIBLE CO. (Jersey City, New Jersey) send us, fresh from the printers' hands, a very handsome example of up to date catalogue making, under the title "Dixon's Graphite Productions." Established in 1827 this company have become the largest miners and manufacturers of graphite in the world. This catalogue illustrates and describes all their various applications of graphite, from crucibles to "lead" pencils, besides giving views of the factory buildings and the interiors of various departments. The pages devoted to Plumbago Facings and Graphited Lubricants, particularly, ought to prove of interest in every factory. [8"×9". 77 pages.]

ROCHESTER WRINGER CO. (Rochester, New York) send us an illustrated catalogue of their self-adjusting clothes wringers.

SOUTH WALES
BRATTICE CLOTH
AND INDIA-RUBBER CO.

MESSRS. IDDON'S WORKS
AT LEYLAND.

LONGEVITY OF
PURE RUBBER.

LARGE BISCUIT
OF PARÁ.

SPENCER MOULTON
& CO., LIMITED.

REPORT OF A GERMAN RUBBER COMPANY.

IT may be of interest to members of the trade elsewhere to look over the details of the annual report made to the shareholders in a leading rubber manufacturing joint stock company in Germany. The one selected for this purpose is the Continental-Caoutchouc- und Guttapercha-Compagnie, of Hanover, the figures applying to the business year 1900.* The balance sheet as printed is prefaced by a general statement of the conditions affecting the industry in general and the business of the company in particular, and explanations of various entries in the balance sheet.

The average price of rubber, the report says, was higher than in the year preceding, though the advance was less marked. But it declined toward the end of the year to what might be designated as a normal level. The latter fact is ascribed to the bringing to market of unusually large quantities of rubber, attracted by the very high prices which for a while prevailed. Care must be taken, in view of the fluctuating market, in trying to avoid high prices, not to permit stocks to become too small, while on the other hand, in view of the possibility of lower prices, too large purchases must not be made at once. The other materials required were also higher during the year, particularly coal and fabrics, though solvents and chemicals were bought at practically former prices. To offset these conditions, it was not possible to advance the prices of manufactured goods except to a slight degree. The company's sales amounted to 1,500,000 marks more than in the preceding year, with a proportionate increase in the expense of manufacture. This increase in sales was in spite of the depression in the cycle industry, in supplying which the company is largely interested.

The hope is expressed that the new commercial treaties to be made by Germany will be on the same basis as now exists. It would be most desirable if all customs duties in the various countries were for a fixed term of years, for then preparations for export trade could be planned with more certainty as to results. An early cessation of the war in South Africa and the troubles in China is hoped for, since both countries promise to become good fields for the sale of rubber goods.

While the factory capacity on the whole has been sufficient, new buildings and machinery are needed, and other expenses are in prospect, to cover which, and to provide larger working capital, the directors ask for an increase in capital stock of 600,000 marks. The price agreement on rubber balls was maintained during the year. The amount paid on patent account was 53,900 marks—partly on installments due on a ball-making patent mentioned in last year's report, and partly for acquiring a patent for tiring wheels, from which much is expected. The dividends on shares of the Austrian-American Rubber Co. (Vienna) and the Lütticher Co. amounted to 9177 marks. The bills receivable are less than in several previous reports, owing to the more prompt payment of accounts. The bills payable are also less, owing to the smaller amounts of raw material, stock in process of manufacture, and finished goods on hand at the close of the year.

In accordance with the requirements of the law the material on hand has been inventoried at the lowest market rates, at which it figures, all told, at 2,275,555 marks. But in view of the fluctuating tendency of the markets, it has been deemed proper to continue the amount of the reserve—500,000 marks—set apart last year to cover any possible shrinkage in value. A

further reserve of 300,000 marks is also continued from last year, to cover any possible loss on the book accounts due to the company. The goods in outside warehouses amount to more this year, because several new branches have been opened.

The directors point with satisfaction to the balance sheet, a translation of which appears herewith. In addition to the usual writing off for depreciation, 100,000 marks extra are written off the factory utensils account, in respect to a quantity of molds which are no longer of any value. Repairs to the extent of 139,053 were made during the year.

There were added to the funds for the benefit of the employés, 25,000 marks, and to the officers' pension fund 10,000 marks. For the employés' benefit was expended, as required by law, 12,185 marks for the sick benefit fund, and 10,998 marks for invalid and old age pensions. Voluntary expenditures were 17,295 marks for premiums on life insurance policies, deposits in savings banks, aid in sickness, advances in rent, etc. The directors asked for an appropriation of 45,000 marks for further expenditure for the benefit of the work people. A vacation of eight days, with full pay, was granted to employés who had worked for ten years or more, including 187 persons.

The company makes all purchases for cash. The dividend declared on the year's business was 45 per cent. on the share capital, which would be 1,080,000 marks, leaving a comfortable surplus to be carried forward.

DEBITS.

Real Estate Account.....	M	714,192.68
Building Account.....		1,159,875.23
Standing December 31, 1900.....		1,195,747.66
Written off 3 per cent.....		35,872.43
Machinery Account.....		670,274.38
Standing December 31, 1900.....		744,749.31
Written off, 10 per cent.....		74,474.93
Factory Utensils Account.....		171,023.06
Standing December 31, 1900.....		338,778.82
Written off, 20 per cent.....		67,755.76
Written off, extra.....		100,000.00
167,755.76		
Outside Warehouses Account.....		158,794.14
Bills of Exchange Account.....		879,421.76
Cash Account.....		33,209.22
Commercial Paper Account.....		208,428.40
Insurance Account.....		12,066.70
Premiums paid in advance.....		
Coal Account.....		13,392.30
Material and Manufactured Goods Accounts.....		1,775,775.23
Raw Rubber.....		1,176,284.38
Materials.....		484,093.74
Finished Goods.....		487,356.30
Unfinished Goods.....		128,040.81
Less reserve for depreciation.....		500,000.00
Accounts Current Account.....		2,314,159.17
Debits on open account.....		2,473,117.07
Interest bearing deposits in Banks.....		141,042.10
Less reserve for depreciation.....		300,000.00
Total.....	M	8,110,612.27

CREDITS.

Share Capital Account.....	M	2,400,000.00
Reserve Fund Account.....		2,025,000.00
Special Reserve Fund Account.....		115,000.00
Second Special Reserve Fund Account.....		143,450.00
Security Account.....		200,000.00
Funds Available for the Benefit of Workmen.....		237,305.93
Standing December 31, 1899.....		234,541.33
Interest for 1900, 5 per cent.....		11,636.59
Disbursed in 1900.....		8,871.99
Employés' Jubilee Fund.....		72,660.70
Standing December 31, 1899.....		61,983.35
Interest for 1900, 5 per cent.....		3,420.60
Disbursed in 1900.....		2,743.25
Received privately from Board of Control.....		62,660.70
10,000.00		
Officers' Pension Fund Account.....		76,828.78
Standing December 31, 1899.....		76,640.73
Interest for 1900, 5 per cent.....		3,768.84
Disbursed in 1900.....		80,409.57
3,580.79		
Share Capital Expense Account.....		114,827.00
Taxes, Stamps, etc.....		
Accounts Current Account.....		1,225,582.37
Creditors.....		
Profit and Loss Account.....		1,499,957.49
Net profit for 1900.....		
Total.....	M	8,110,612.27

* Last year was published in this journal [October 1—page 9] the balance sheet of another German factory—the Vereinigte Gummiwaaren-Fabriken Harburg-Wien.—THE EDITOR.



METHOD OF EXTRACTING BALATA IN VENEZUELA.

[By the courtesy of *El Cojo Ilustrado*, Caracas.]

GROWTH OF BALATA PRODUCTION.

THERE are indications that the production and consumption of Balata are increasing, though at what rate it is difficult as yet to say, owing to the want of system which prevails in most quarters in the statistics kept of this commodity. Mr. Henry Souther Tufts, formerly of Boston, who was a recent visitor to THE INDIA RUBBER WORLD offices, stated that he was interested in a company employed in the collection of Balata in the section, rich in that gum, due south from Ciudad Bolivar, on the Orinoco, in Venezuela. The company has been devoted to this business alone for a year or more, with such success that more capital is to be employed. Mr. Tufts reports that the Orinoco Co., an American company holding large concessions in the delta of the Orinoco, are also devoting their attention in a large measure to the collection of Balata. It seems that the Venezuelan product is shipped chiefly to Hamburg, owing to the predominance of the German element in the trading in the Orinoco valley. But the German trade statistics do not happen to specify Balata. In the German reports of imports of "Kautschuk und Guttapercha" the following quantities have been credited to Venezuela, and in the opinion of Mr. Tufts the greater part—or possibly all—is Balata:

	1897.	1898.	1899.	1900.
Pounds.....	103,400	219,780	552,420	773,080

Meanwhile the arrivals of Balata at Rotterdam have about held their own, private statistics supplied by Messrs. Weise & Co. being as follows, and the Venezuelan sorts predominating:

	1897.	1898.	1899.	1900.
Pounds.....	497,970	524,920	324,390	407,220

Coming to Great Britain, the official statistics still include Balata in the imports of Gutta-percha, the latest available figures showing the following results (by converting cwts. into pounds):

	1897.	1898.	1899.
British Guiana.....	538,608	547,120	320,504
British West Indies.....	87,696	136,976	102,928
Venezuela.....	9,072	32,256	178,864
Colombia.....	1,568	17,248	53,200
Dutch Guiana.....	24,976	58,352	.....
Total.....	661,920	791,952	664,496

How much of these British imports were actually Balata there is no means of knowing, but presumably all, though the

figures for Colombia yet require some explanation. The amounts credited to the West Indies were first imported at Trinidad, mainly from Venezuela.

A summary of the above figures shows imports at the three centers mentioned of 1,263,290 pounds in 1897. Allowing as much for Great Britain in 1900 as in the preceding year, the total for that date would reach 1,644,796 pounds. Formerly the Guianas were almost the only sources of Balata, and figures are at hand covering the exports from those colonies very thoroughly for the earlier years of the industry. These figures show the average exports during the five years 1892-1896 inclusive:

British Guiana ..	229,824 pounds.
Dutch Guiana ..	185,472 "
Total.....	415,296 "

It will be seen, therefore, that the total movement of Balata is taking on greatly increased proportions. It does not appear, however, that the United States have participated in this increase. The official import returns for the fiscal year 1898-99 embraced only 21,913 pounds of Balata, valued at \$7633. But the classification is not very exact at the custom house in relation to this material, and for the year 1899-1900 the Balata item disappeared completely. From the reports of arrivals published monthly in THE INDIA RUBBER WORLD it appears that Balata was imported into the United States during the calendar year 1900 as follows (in pounds):

From	From	From	From	TOTAL.
Trinidad.	Surinam.	Great Britain.	Hamburg.	
30,500	6,900	23,000	17,291	77,691

The leading firm handling Balata, however, state that their arrivals alone were 75,000 pounds, and that probably 100,000 pounds altogether were imported.

The usual methods of collecting Balata are treated fully in THE INDIA RUBBER WORLD for August, 1899, by Mr. Joubert. It appears, however, that in Venezuela the practice of felling the trees is general, on account of the much greater immediate return, and the area over which the trees are distributed is so great that no possibility of exhaustion is admitted by those engaged in the business. By tapping, the tree can be made to yield only up to the highest point reached conveniently with a ladder, while by felling the tree the sap can be obtained sometimes for a length of 100 feet or more. Besides, under a method

used by the Orinoco Co., all the bark is stripped from the tree, after as much Balata as possible has been extracted, and whatever remains in the bark removed by a chemical process. The high price of Balata is accounted for partly by the relative scarcity of labor. As high as 28 cents per pound has been paid to collectors employed in Venezuela, though payment was made in goods. Again, the better supplies of Balata are remote from navigable streams, one company being obliged to pay 3 cents a pound (= \$60 per ton) for the haulage of Balata to the nearest boat landing.

Sheet Balata is obtained by spreading the sap in shallow pans and exposing it to the sun, the process lasting sometimes nearly two weeks. The dried sheets are $\frac{1}{8}$ to $\frac{3}{8}$ inch in thickness, and are sometimes rendered thinner by running them between rollers, the chief purpose of which operation is to render the sheets less liable to curl up. Tin plate is well adapted for Balata pans, though the natives use wooden troughs, lined with tree leaves to keep the gum from sticking to the wood.

Block Balata is formed by boiling the sap in kettles holding from 8 to 12 gallons, until it reaches the consistency of molasses candy at the stage when it can be "pulled." It is then formed into masses in size suited to the packing cases, and placed in water to cool. The boiling requires about 2 hours for the first kettleful; the proper heat having then been reached, subsequent lots are boiled sufficiently in about 45 minutes. The cooling and hardening requires 3 or 4 hours. Packing cases of wood are usually 18 or 24 by 12 inches, and 4 inches deep.

The new treatment adopted in Venezuela does not extend to the whole production from each tree, but is rather a supplementary process. That is, after the usual method of extraction, the Balata remaining in the bark is obtained by grinding the bark and removing the Balata by distillation. Only the inner bark is ground up, the rough outer bark being first cut off. The further processes are kept secret, but naphtha is supposed to be used.

The average yield of Balata milk is about 3 gallons per tree, or 27 pounds, which yields 15 to 21 pounds of Balata. Mr. Tufts mentions having removed all the bark from a felled tree, before extracting any sap, and running it between the steel rolls of a sugar mill, with the result of obtaining three times as much Balata, but it contained more impurities than that obtained by ordinary means.

LATEST BALATA REPORT FROM VENEZUELA.

In the June issue of *Der Tropenpflanzer* (Berlin) appears a report by E. Englehardt, of Ciudad Bolivar, Venezuela, to the effect that during the year 1900 the production of Balata in that country was very largely increased, while the output from the Guianas had become relatively insignificant. The preservation of the trees, he says, has in no wise been considered. They are simply felled and allowed to rot on the ground, although the timber would be of great value if it were possible to convey it to the seaboard. The Balata gatherers are compelled to invade the forests deeper and deeper every year, every tree for miles from the original starting point having been destroyed. The only shipments are now made from Bolivar. The rate of increase has been as follows:

In 1897	650,613 pounds.
In 1898	1,043,170 "
In 1899	1,659,295 "
In 1900	2,628,784 "

It will be noticed that these figures, obtained evidently from official sources in the country of production, are much larger than those given in the preceding article, which was prepared before Mr. Englehardt's report was available. It is stated, also,

that very little sheet Balata is produced in Venezuela, the block Balata being produced more readily.

During 1900 rubber was shipped from Venezuela only in small quantities, owing to the seat of the revolution which existed for months being in the district whence the necessary labor for rubber gathering is secured. [The rubber from the Orinoco, marketed usually as "Angostura," is of the Pará type, and classified as "fine" and "coarse."] The shipments by the river Orinoco were: Fine, 114,970 pounds; coarse, 32,332; total, 147,302 pounds. However, some Venezuelan rubber, from the back districts, finds its way to the Amazon, being exported through Pará, but the total export Herr Englehardt estimates at not over 100 tons for the year. The production for 1901 is expected to be much larger—possibly 400 tons, owing to an increased interest in the business and the investment of new capital on a systematic basis.

USE OF BALATA IN GERMANY.

THE INDIA RUBBER WORLD has a report concerning the use of Balata in an important rubber factory in Germany, which consumes a considerable amount every year. It appears that the only use to which this material is put, in the factory referred to, is in the manufacture of belting. A small amount of Gutta-percha is used in the compound. There is no cover placed on the outside of this belting, so that, when completed, the general appearance is much the same as that of the oiled stitched belting commonly used in the United States for threshing machines and in mining operations. The German Balata belting is understood to be used in connection with the beet sugar industry, which is quite extensive in that country, the belting not being injured by the beet juices with which it constantly comes in contact.

AMERICAN GAS TUBING IN ENGLAND.

THE Birmingham *Daily Mail* is responsible for the statement that a "ring" of English tube makers, by excessive demands at the last bidding, forced the Birmingham gas committee to purchase American-made tubing for fittings. The United States consul adds that the British quotations were so high that an American firm succeeded in selling tubing "at a figure which no one in England could touch, and not only was the price cheap, but the quality was vastly superior." The consul reports that although the combination is not so strong this year, "so satisfactory has the American product proved that it will hardly be surprising if the gas committee," now ready for a new purchase, "asks for tenders from America."

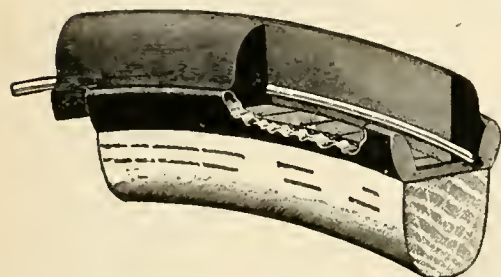
RUBBER STAMP SIGNATURES.

THE supreme court of Connecticut has held that a letter dictated by a person, typewritten at his direction, and signed with his name by means of a rubber stamp, is a writing signed by such person, in the sense of the statute providing that in order for a case to be taken out of the statute of limitations in certain actions, by an acknowledgment or promise, the latter must be in some writing made or signed by the party to be charged thereby. The court said that since typewriting is a substitute for and the equivalent of writing, letters thus written are to be considered as having been done by the party dictating them, and that when a rubber stamp is used for signing they are to be held as having been signed by him, in the absence of any express or implied requirement of law that one shall subscribe a writing with his own hand.—*Commerce, Accounts and Finance*.

THE RUBBER TIRE INTEREST.

“ ‘WEMAKA’ PERFECT VEHICLE TIRE.”

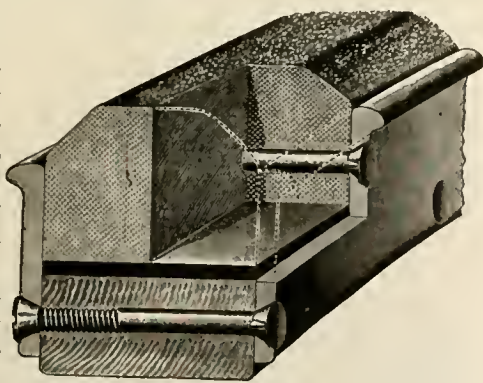
A DISTINCTIVE feature of this tire is its construction with cross stays vulcanized in the rubber itself, the tire being held in place by separate retaining wires, being independent of the cross stays, which permits the longitudinal



compression of the rubber along the retaining wires. Where the rubber is compressed in the channel, the pressure of the retaining wires is distributed and equalized by the cross stays throughout the entire length and width of the tire. It is thus impossible for the tire to roll out of the channel, or for the longitudinal wires to cut through the rubber. “Wemaka” tires $\frac{3}{4}$, $\frac{7}{8}$, and 1 inch wide are made with one longitudinal wire; wider tires with two. [New Jersey Car Spring and Rubber Co., Jersey City.]

THE STEVENS INDURATED FABRIC TIRE.

SOMETHING new in the way of tire construction appears in the “Indurated Fabric” tire, manufactured under the Stevens patents. This tire is built up of many plies of specially woven canvas, impregnated with rubber, and vulcanized together under hydraulic pressure. The fibers are disposed diagonally to the radius at any point, and only the edges of the canvas are presented to the road surface. The results claimed for this method of construction are exceptional qualities in the way of lightness, durability, and resistance to slipping. Elasticity or resiliency is not claimed for this tire, which is intended mainly for use on commercial wagons as a substitute for solid rubber or steel tires. It is secured to the wheels of light vehicles by the means of a special type of steel channel, the sides of which are at right angles to the base. For heavy trucks and automobiles the tires are made endless, and secured to wheels by means of side flanges, as shown in the illustration. In either case, bolts pass through the channel sides and the tire, thus aiding to hold the tire in place. In the vehicles manufactured by the same company, the whole machinery equipment is spring supported, the makers claiming that this construction, relieving the tires of the duty of absorbing shocks, is the logical one. [Auto-Dynamic Co., No. 140 West Thirty-ninth street, New York.]



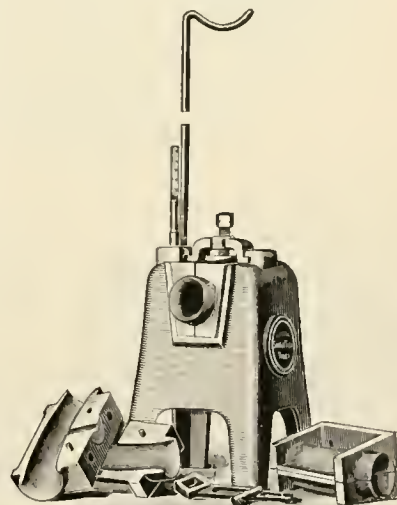
AMERICAN MADE TIRES IN BURMA.

AN advertisement prominently displayed in the daily *Gazette* of Rangoon, Burma, though printed in the British empire, in-

cludes not only the Hartford single tube tire, but also Dunlop, “Scottish” clincher, and Palmer tires, all with “American made outer covers.” The latter covers are quoted at 18 rupees (=24 shillings = \$5.78) each. The presence of these Dunlop goods on the Indian market recalls the suit recently brought by the English Dunlop tire company against the related company in America for exporting such goods, alleged to be in violation of an agreement for the division of territory. The Hartford tires are listed at a trifle less each.

THE “HARTFORD” TIRE VULCANIZER.

THIS is a new vulcanizer, for use in repairing pneumatic tires. The repair is vulcanized in a sectional mold while inflated, thus preserving the original shape of the tire, or the tire may be clamped on the top of the mold, thus allowing the machine to be used as a flat plate vulcanizer as well as a sectional one. The heat is obtained from a gas flame placed underneath in the heavy metal base, and, by the arrangement of the mold, the heated air is carried completely around the tire, escaping at the top. A repair may thus be made with equal facility on either the tread or the rim portion of the tire. This vulcanizer is also supplied for use with kerosene as fuel. A thermometer accompanies each vulcanizer, so that the degree of heat may be ascertained readily. [The Hartford Rubber Works Co., Hartford, Connecticut.]



TIRE NOTES.

AMERICAN tires were very much in evidence at a recent exhibition of motor cars in Agricultural Hall, Islington, London. The “Ideal” solid carriage tire shown by J. W. & T. Connolly is that known in America as the Kelly-Springfield tire, the exhibitors being licensees for it in Great Britain. The “Star brand” solid wired on tire shown by Whittingham & Wilkin, is the same as that marketed by the Batavia Rubber Tire Co., of Batavia, New York. Another solid type shown was the “Easy” tire, which is of American origin. The New York Tyre Co., who showed a single tube tire, have the London agency of the New York Belting and Packing Co., Limited, for the latter’s “New York vehicle tire.”

=The Kelly Springfield Rubber Tire Co. (Davenport, Iowa), incorporated August 31, 1899, in spite of their name, announce that they have no connection with any other company. They are marketing solid wired-on carriage tires.

=Sectional Pneumatic Tire Co. (Binghamton, New York), incorporated lately to manufacture a new tire, have made some changes in their organization. The officers now are: E. C. Underlied, president; B. A. Baumann, vice president; F. J. Baumann, treasurer; R. D. Bundy, secretary; W. L. Bundy, general manager; Charles Miller [patentee of the tire], superintendent.

THE RUBBER PLANTING INTEREST.

THE shareholders in the Commonwealth Mexican Plantation Association of Chicago are entitled once each year to select one of their number to visit and report upon the condition of the rubber and sugar plantation of the company near Tlacotalpam, Mexico. The choice fell last winter upon Wesley H. Holway, the owner of 50 shares in the company, who reported to the other stockholders: "The land is there as represented. The climate, soil, and everything are exactly as they have been represented to you. There is but one thing necessary, and that is an abundance of capital, and for that they must look to you. You sent me to Mexico to investigate the proposition for you, and I have endeavored to look the ground over thoroughly and give you an honest opinion, and if my opinion is worth anything to you, it is that the plantation plan is a perfectly feasible one. - - - So thoroughly satisfied do I feel with my investment, that I am making plans now to pay for the whole of my stock in advance"—and the report advises the other shareholders to do the same thing, in order to provide means for the earlier development of the plantation. In regard to rubber, Mr. Holway wrote: "Land on our place is now being prepared for about 50,000 to 75,000 rubber trees, which will be planted during the coming summer. We have now in the nursery about 15,000 to 25,000 rubber trees of six months' growth. These trees show a very rugged and hardy growth, and I am convinced from the different plantations that I visited, and the rubber trees that I saw growing, that it is just as easy to raise a rubber tree in this part of Mexico as it is to raise an apple tree in Illinois." This plantation is in the center of what Mr. Holway calls an American colony, where he says that between 100,000 and 200,000 rubber trees, planted within the past three years, are growing well.—One of the directors, and a prominent shareholder, of the above-named company is Maxwell Riddle, who is also general manager of the Republic Development Co., engaged in developing another rubber estate.

TEHUANTEPEC RUBBER AND COMMERCIAL CO.

[Plantation in the canton of Juchitan, state of Oaxaca, Mexico. Offices: No. 115 Monroe street, Chicago.]

INCORPORATED under Illinois laws, 1900. Will develop 1000 acres purchased from the Mexican Tropical Planters' Co. (Kansas City)—a part of the "Dos Rios" estate—of which 900 acres are to be planted in rubber, at the rate of 180 acres per year. Eight hundred trees will be planted to the acre; 600 of these (the excess) will be destroyed at the age of five years by extracting all the rubber milk, and thus making room for the development of the permanent trees (200 to the acre), from which no rubber will be taken until the tenth year. The company offer \$500 bonds, to be paid for in yearly instalments of \$100, together with \$500 worth of stock free of cost. C. C. Bartlett is president, S. M. Seator vice president, John Ware Page secretary, and S. R. Frazier treasurer. The Chicago Title and Trust Co. is trustee and depositary of funds.

MEXICAN MUTUAL PLANTERS' CO.

[Plantation: La Junta, state of Vera Cruz. Offices: New York Life building, Chicago.]

THIS company offer profit sharing bonds, to be paid for within six years. The bonds are reported to have been nearly all sold. A letter from the head office states: "We are now planting, and at the close of this year expect to have under cultivation, about 1400 acres, containing 500,000 rubber trees, 15,000 cacao trees, and 250,000 coffee trees. The coffee trees will

bear a good crop two years from this fall. We have on our plantation about fifty buildings, eighteen of them being brick. We have a brick and tile machine, and have made this season something over 200,000 bricks, and are now erecting nothing but brick buildings." The rubber trees now being planted from the nursery are one year old and average about 6 feet high. This company plant rubber in the open, 800 trees to the acre, with the idea of largely reducing the number at four years' growth.

THE SOCONUSCO RUBBER PLANTATION CO.

[Plantation to be located near San Benito and Tapachula, department of Soconusco, state of Chiapas, Mexico. Office: No. 314 Montgomery street, San Francisco.]

INCORPORATED under California laws, October 16, 1900. George S. Fife, president; G. Berson, secretary; Charles G. Cano, general manager; Teofilo Palacios, representative director of the company in Mexico. The company owns 17,800 acres of land. It is proposed to plant rubber, one acre for every share of the capital stock sold, the same to be kept in condition until the age of production. Shares are offered at \$75, payable in installments.

AN EAST INDIA PLANTER IN MEXICO,

JAMES MAUNDER, formerly an East Indian planter, and now located at San Juan Evangelista, state of Vera Cruz, Mexico, writes to *Indian Gardening and Planting* (Calcutta), commending the culture of India-rubber (*Castilloa elastica*) to the planters of southern India as better than growing coffee. He mentions having an interest in a nursery of 500,000 rubber trees to be set out in July and August this year, when they will make another nursery of 1,500,000 plants, requiring two tons of seed. Mr. Maunder writes: "We could make rubber pay better here than any kind of planting we know of, if we only had East India coolies," and he is trying to arrange to import some.

RUBBER PLANTING ON THE AMAZON.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have seen articles in your paper about rubber planting in Mexico and elsewhere, and therefore write you to ask if something could be done with capitalists in the United States to start rubber plantations in the state of Pará, Brazil, on the Amazon. Land suitable for planting rubber can be bought at a low price, from, say, 10 cents an acre up—according to locality, etc. Of course, you know that the best quality of rubber is produced on the Amazon river, and the production per tree is more than any other place. Please let me know what you think of the matter, and whether you could assist in starting a company or interesting capitalists in the scheme. If you print this, I presume that any answers could be sent to me in care of your office.

S. B.

Pará, Brazil, May 25, 1901.

PLANTING COMPANY PUBLICATIONS.

LA Zacualpa Rubber Plantation Co., San Francisco—La Zacualpa (the beautiful forest) of Soconusco. An Interesting and Authentic Description of a Mule-back Ride through the Quaint, Little Known Department of Soconusco, Mexico. By Mr. and Mrs. Frederick H. Colburn. Illustrated from Photographs taken by the Authors. 28 pp.

Isthmus Rubber Co. of Ubero, No. 29 Broadway, New York—The World Crying for Rubber. 40 pp.

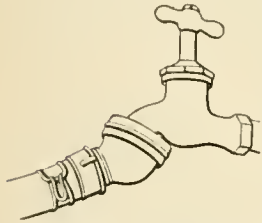
Aztec Plantation Co. (Inc.), Chicago—A Judicious Investment. Principal Secured by Valuable Property. Dividends Guaranteed. A Perpetual Income Procured by Small Monthly Payments. 24 pp.

NEW GOODS AND SPECIALTIES IN RUBBER.

A NEW HOSE ATTACHMENT.

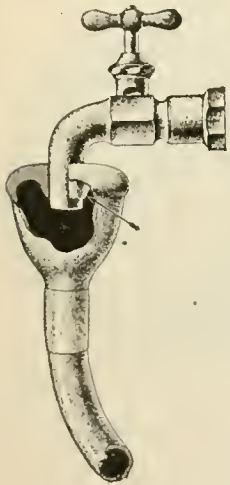
THE illustration herewith relates to a new hose attachment for connecting $\frac{1}{2}$ and $\frac{3}{4}$ inch hose to smooth faucets. It consists of a brass piece with a rubber washer. The attachment has only to be pushed on the faucet. The greater the pressure of water, the tighter it will hold. It cannot leak or be forced off. This useful little article is made by the Roberts Manufacturing Co., of Philadelphia, [mentioned in THE INDIA RUBBER WORLD, May 1—page 246], who are getting ready to make a line of specialties in hose goods.

The list price of the hose attachment is \$6 per dozen; extra rubber washers, \$1.30 per dozen. The entire output of the Roberts Manufacturing Co. is handled by Latta & Mulconroy Co., Nos. 1213-1215 Market street, Philadelphia.



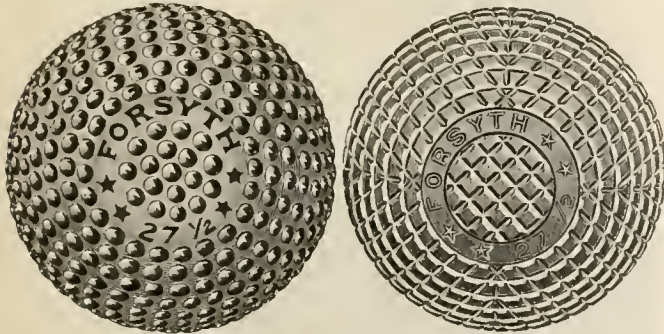
THE "HOLDFAST" BATH SPRAY.

THERE have been described already in THE INDIA RUBBER WORLD [July 1, 1899—page 276] several "adjuncts to the modern bathroom," including sprays of special construction, with rubber tubing, manufactured by S. Sternau & Co., now of No. 204 Church street, New York. This firm have now introduced a new bath spray, which they call the "Holdfast," on account of a special "grip," guaranteed to stay on the faucet under all pressures. The accompanying picture is intended to illustrate the feature of construction of this grip which keeps it in place. A patent has been applied for.



THE FORSYTH GOLF BALL.

THE line of golf balls manufactured by the Boston Belting Co. has been mentioned already in THE INDIA RUBBER WORLD, but is referred to again for the purpose of introducing illustrations of two patterns which have not appeared in these pages before. These are described respectively as "Pattern



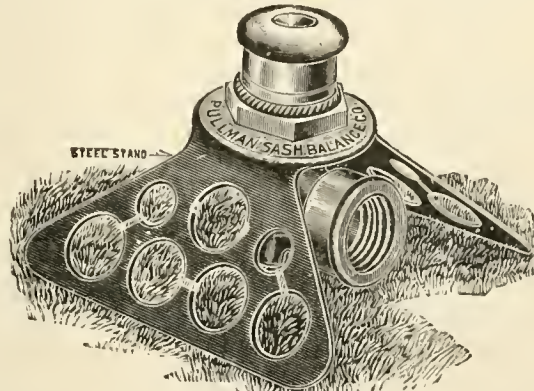
PATTERN B.

PATTERN C.

B" and "Pattern C," and are marked as shown in the accompanying cuts. The same quality of material is used in all the patterns made by the company—a pure high grade Gutta-percha. They are well molded, well seasoned, and properly painted, and are packed 1 dozen or $\frac{1}{2}$ dozen to the box.

THE NEW "PULLMAN" LAWN SPRINKLER.

ONE distinctive feature of this device is that the nozzle is screwed upon the sprinkler proper, which is so constructed that the size of the spray can be regulated by merely turning

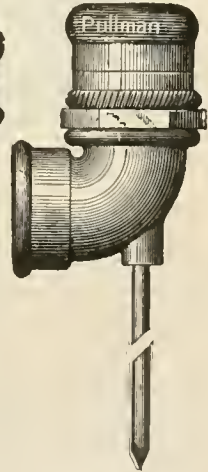


"PULLMAN" SPRINKLER.

the nozzle, screwing it up or down, and thus changing, practically, the size of the orifice. If desired, the stand can be removed, and the sprinkler mounted on a pin, for watering terraces or uneven ground where the stand cannot be set level. Or, the nozzle can be disconnected from the stand and attached directly to the hose. The "Pullman" sprinkler has no ball, spring, or other movable parts to wear or get out of order; there is not any back pressure; it sprinkles at all pressures, covering 2500 square feet at ordinary pressure. The spray covers the ground evenly, being umbrella shaped with central jet. The nozzle and other parts are made of solid brass, nickel plated, the sprinkler stand being made of cold steel. [Pullman Sash Balance Co., Rochester, New York.]



NOZZLE.



SPRINKLER MOUNTED ON PIN.

THE LATEST WATER BOTTLE.

THE illustration represents a lately patented water bottle, with a device for containing hot or cold drinks, for the sick room or for various household purposes. It comprises, in the first place, a rubber bag, with an opening in the top through which cracked ice or hot water may be introduced. In one side of the bag a slit is cut, and a pocket is formed beneath this slit, extending to the bottom of the bag, in which a bottle may be inserted, allowing the heating or cooling material in the bag to entirely surround the bottle and act on the contents of the latter. When it is desired to heat milk for an infant, the nursing bottle is inserted in the pocket and hot water is poured into the neck of the bag, warming the milk to the proper temperature in a few moments. When used for cooling champagne or other drinks the cracked ice is placed in the bag, and by the time it has melted the liquid will be found agreeably cool. The patent



is for sale by the inventor, Charles T. Bradshaw, No. 21 North Thirteenth street, Philadelphia.

THE HOOVER BREAST PUMP.

In respect to the article represented in the accompanying illustration, it is claimed that it is simple in construction and easy to operate; that it has a continuous draw, and that it is free from any tendency to cause irritation. It has won the commendations of physicians as a breast pump and also as a nipple developer. While the amount of rubber used in each pump is not large—only the tubing which connects the glass with the metallic spool—yet the rubber feature is quite important, and the total consumption of the elastic material in the whole output of pumps is considerable. This article retails at 75 cents. [Standard Manufacturing Co., Waterloo, Iowa.]



MORRISON SURGICAL PADS.

THESE pads are constructed with an inflatable air cushion which is attached in such a manner that there is no space or crevice between the cushion and the body part of the pad. This is a very important feature, as the cushion lies flat when deflated and can be sterilized easily and cleaned thoroughly. The body of the pad is attached to the center of the air space, instead of the bottom, and because of this the cushion can be



used on either side, which is a great advantage, as the wear is uniform on both sides. This tends to increase the durability of the pad. Another distinctive feature is the detachable sleeve, which permits more thorough cleaning than could be done with the sleeve permanently attached to the pad. These cushions are made of the best tan rubber and cost little more than the regular style of pads. [Davidson Rubber Co., No. 19 Milk street, Boston.]

SWIMMING GLOVES.

THIS new patented article is made of rubber, with webs between the fingers, as shown in the illustration. Among the ways in which the glove may be utilized are, first, as an aid to beginners, as a means of facilitating the movements in swimming, since by the greater displacement of water than by the bare hand, it will enable one to swim faster and longer. Attention is called by the inventor to the duck's swimming, while the hen cannot, because the duck has webbed feet. It will also be an aid to life savers, and contribute to the sport of water polo. [F. R. Madeira,



No. 207 Broadway, New York.]

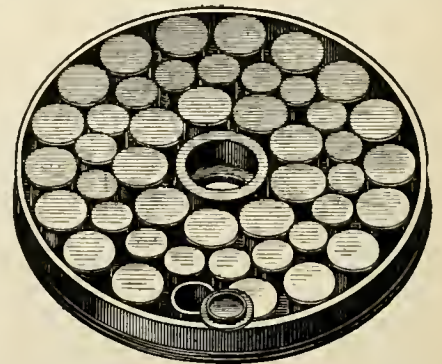
“LA FAVORITE” LANDING MAT.

THIS recently patented device differs from other landing mats for use in fire engine houses in respect to its greater elasticity, afforded by the

confined air in the numerous air tubes on the inner side of the mat. Each of these tubes or cells is provided with a rubber cap, one of the illustrations herewith showing a view with one of the caps removed, to indicate the method of construction of the pad.



Another point of novelty relates to the method of adapting one of these mats to a landing pole of any size. It being desirable that the mat shall fit the pole closely, in order that it may remain in position on the pole when pushed up to allow the floor to be cleaned, or for any other reason, it has been customary to have landing mats made to order, based upon the diameter of each pole to be fitted. In the “La Favorite,” on the other hand, the opening in the center is made of uniform size in all mats. There is furnished, however, a bushing to fit in this opening, and of such inner diameter as will fit the pole for which any given mat is desired. These mats are in satisfactory use in the fire departments of many large cities. [La Favorite Rubber Manufacturing Co., Paterson, New Jersey.]



THE “PLUG” RUBBER HEEL.

THE distinctive feature of this new design in rubber heels is a “plug” of duck, the whole being vulcanized together in such

a manner as to prevent the plug from working out of place. The special claim made for this form of construction is that it prevents slipping. It may be mentioned that the same idea has been taken up in the manufacture of horse shoes and solid vehicle tires, the fiber being substituted for rubber to prevent the slipping of horses and vehicles. The exclusive jobbers



for New England of the new heel are the Batchelder & Lincoln Co., No. 96 Federal street, Boston.

HEARD AND SEEN IN THE TRADE.

SPEAKING of the present condition of the India-rubber industry, a manufacturer of a good many years' experience said: "I have never seen anything like the recent growth of new demands for rubber. Every day there is a call for some article in rubber, involving new uses. The total volume of trade is growing, too. There is room for half a dozen new rubber factories in this country to-day. The manufacturer can take his pick of the orders offered him now, to a greater degree than ever before, so that it only requires good judgment to be able to make money in the rubber business under existing conditions."

* * *

"THERE is one change in trade methods," said the same manufacturer, "that marks a great improvement in the rubber trade. It is the tendency to cut down the extent to which goods have been shipped on consignment. So long as goods in stock don't belong to the dealer, it is not in human nature for him to give them the same care as when the goods belong to himself. Under the old method consigned goods were piled up in stock without regard to the real needs of the trade; bales and rolls of goods were cut into recklessly, in filling orders, without regard to what became of remnants; and as a rule little care was given to keeping goods in condition. Any loss, of course, fell on the manufacturer. But let a dealer or jobber buy his goods, and it makes all the difference in the world in the way those goods will be cared for."

* * *

THERE has been so much said lately about the relative merits of solid and pneumatic tires for automobiles that many people seem to have lost sight of the fact that these are not the only types of rubber tires. Not that any other kind is likely to be met on city streets, but on the country roads of such districts as Long Island and the suburban portions of New Jersey, it is asserted that a good demand exists for cushion tires for light vehicles. One carriage firm in New York is reported to have determined to confine its attention altogether to vehicles for the country trade, fitted with cushion tires.

* * *

NEW YORK was visited recently by a Danish chemist—a young man who, though only twenty-four, has found time to give a good deal of attention to India-rubber. He attended to his business expeditiously and without flourish of trumpets, and doubtless left richer than when he came. Among other things, he sold to a leading rubber manufacturing concern his patents in Canada and United States for a new process for reclaiming rubber, which process has been patented also in all the European countries and in Japan. The writer is assured—though not by the inventor himself—that the young Dane may reasonably expect to profit, by his discovery, to the amount of hundreds of thousands of dollars.

* * *

THE contents of a Chinese store in New York, or any other American city, are decidedly foreign in character, as a rule. But of late one may see displayed prominently in nearly every such store clothes wringers of genuine American manufacture. Indeed, the demand for these articles has become so general among Chinese laundrymen in this country that the American Wringer Co. have added to their list a special make for this trade. Many of the wringers are retailed at the company's stores, besides which there are Chinese merchants throughout the United States who do a considerable jobbing trade in the wringers. The Chinese make good customers, buying as a rule for cash. But the demand for wringers in China has not

grown proportionately. It seems that it is only when laundering white people's clothes that the Mongolian laundryman has any use for modern appliances.

* * *

INQUIRY was made, during one of the hottest days recently, in a rubber store in New York, why rubber boots were displayed so prominently in the windows. "We retail about as many boots at one season as another," replied the proprietor, "because people at work in the water require rubber boots, whether in winter or summer. Besides, we wholesale and job rubber boots all summer for the coming winter trade."

* * *

THE few rubber manufacturers on the Pacific coast have at least one advantage. When any crude rubber reaches San Francisco by steamer from southern Pacific ports, the competition among buyers is not so great but that it may sometimes be secured at very low prices. An Eastern rubber man while in San Francisco recently, heard of a lot of rubber just arrived, which was offered at a price which would have enabled him to ship it by rail to New York, at a total cost less by 10 cents a pound than the quotation here at that time. But before he could reach the seller the lot had been taken by a local manufacturer.

* * *

COTTON duck made for carriage cloths has to be finished weighing a certain number of ounces to the running yard and of a certain count. The width used principally is 50 inches, although there is a considerable call for 36 inches, and a limited demand for 54 inches. The same applies to drills as well as ducks. The cotton goods are bought generally in the gray and colored to suit by the carriage cloth manufacturer. The color principally in demand at present is green, although goods are made also in blue, brown, drab, and maroon.

SOME WANTS OF THE RUBBER TRADE.

[169] **A** MANUFACTURER of rubber specialties writes: "Will you kindly inform us where we can secure grummets, such as are used in the tops and tails of water bottles?"

[170] "We wish to get the address of a manufacturer of rubber castors."

[171] A correspondent in the Indian Territory sends a drawing from which the following cut has been made, and writes:



"This is supposed to be a hair curler. Can you tell us where we can secure the article?"

[172] "Kindly inform us who are the manufacturers of rubber nails or spikes, such as are used in lodge work."

[173] The rubber goods house of Hill & Müller, Mannheim, Germany, advise THE INDIA RUBBER WORLD that they are buyers of large quantities of American gas tubing, and that they desire offers from reliable manufacturers.

[174] "We have been thinking something of installing a number of linen hose machines. Can you furnish us with the address of a manufacturer of the same?"

[175] A dentist writes: "Is there a substitute for rubber made from petroleum, asphalt, or any other material, that can be vulcanized or hardened like hard rubber?"

EXPORTS OF AMERICAN RUBBER GOODS.

THE total exports from the United States of goods classed as "Manufactures of India-rubber" during the fiscal year beginning July 1, 1900, up to the end of April, were:

MONTHS.	Beltmg, Packmg, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-March...	\$391,862	\$641,855	\$1,273,876	\$2,307,593
April, 1901...	56,223	21,116	158,248	235,587
Total.....	\$448,085	\$662,971	\$1,432,124	\$2,543,180
1899-1900..	439,220	329,686	1,133,094	1,902,000
1898-99...	(a)	214,330	1,194,397	1,408,727

(a) Not separately reported prior to July 1, 1899.

The number of pairs of rubber footwear exported was 1,349,063, against 597,614 pairs for the same period last year, and 393,830 pairs in ten months of 1898-99.

Exports of reclaimed rubber during the same months were:

1898-99.	1899-1900.	1900-01.
\$278,438	\$387,397	\$364,856

DISTRIBUTION OF RUBBER EXPORTS.

THE manufactures of India-rubber exported from the port of New York during the four weeks ended May 28, 1901, were of less value than during the preceding month. They were destined as follows:

Great Britain..	\$16,026	Cuba.....	6,979	Venezuela....	218
Germany.....	8,640	British W. Ind.	548	Australia....	14,204
France.....	3,070	Danish W. Ind.	12	New Zealand..	4,030
Belgium.....	251	Haiti.....	12	Philippines...	1,036
Holland.....	1,875	San Domingo.	102	Hongkong....	390
Italy.....	100	Dutch W. Ind.	26	Japan.....	1,754
Portugal....	125	Argentina....	119	British E. Ind.	347
Denmark.....	2,257	Brazil.....	521	Dutch E. Ind.	150
Nor'y-Sweden.	1,838	Chile.....	144	British Africa.	1,356
Newfoundland.	81	Ecuador.....	663		
Mexico.....	2,469	Peru.....	184	Total...	\$70,216
Central Amer.	551		138		

Some other exports during the same month were:

Dress Shields.—To Southampton \$13,624; Liverpool \$787; Glasgow \$624; Hamburg \$7291; Rotterdam \$2,9; Australia \$1655; Other countries \$658; total \$20,938.

Clothes Wringers.—To Great Britain \$2756; Germany \$1807; Holland \$1033; Denmark \$1223; Other Europe \$826; Other countries \$1098; total \$8743.

India-rubber Thread.—To all ports \$6190.

Reclaimed Rubber.—To Liverpool \$4311; Manchester \$1050; Glasgow \$5064; Hull \$1777; Genoa \$1125; Havre \$6097; Hamburg \$350; Riga \$450; Other Europe \$360; Japan \$1740; total \$22,324.

Besides which there were exports of rubber cement, dental goods, dental material, electrical material, etc., containing rubber.

BELGIUM RUBBER GOODS TRADE.

THE movement of rubber manufactures has been as follows, the figures denoting values in francs:

	1898.	1899.
Imports.....	985,234	1,169,549
Imports (in transit).....	2,810,105	3,127,623
Total imports.....	3,795,339	4,297,172
Exports.....	893,529	667,635
Exports (in transit).....	2,810,105	3,127,623
Total exports.....	3,708,630	3,795,258

Imports in 1899 were chiefly from Great Britain, Germany, and France, the countries being named in the order of the importance of the trade with each. Exports were mainly to France, Great Britain, and nearly one-half to various countries in small amounts. Of the goods "in transit" 1,606,176 francs worth were credited to Germany, and 1,124,714 francs worth went to Great Britain.

DUTY ON ELASTIC BRAIDS.

THE rate of duty upon imports of elastic braids made of cotton or other vegetable fiber and India-rubber, under the tariff act of July 24, 1897, has finally been construed by the United States circuit court for the southern district of New York. The decision rendered by Judge Townsend, sustains the contention of Appraiser Wakeman, of New York, that in assessing the duty, the cost of fabrication should be considered. The importers claimed that the elastic braids should come under the India-rubber schedule, under paragraph 449, at 30 per cent. *ad valorem*, as goods in which India-rubber is the component material of chief value. The board of general appraisers, in 1899, held that while the rubber contained in the elastic braids, in the condition of thread, is of greater value than the cotton component, considered as thread, yet when the labor and other expenses incidental to converting the two kinds of thread into the finished product are analyzed, about nine-tenths of the cost is applied to the textile threads, making the cotton or other fiber the component of chief value. Protests against this decision were carried to the circuit court, with the result above recorded. Such imports, therefore, if the fiber is of cotton, are liable to duty at 60 per cent. *ad valorem*, under paragraph 339 of the law of 1897, and if of silk, at 60 per cent. *ad valorem* under paragraph 390.

During the controversy a delegation of customs examiners from New York, including some of the board of general appraisers, visited mills in Massachusetts to investigate the methods of manufacture of elastic braids, reaching the conclusion that Appraiser Wakeman was right. The decision by the appraisers was summarized in THE INDIA RUBBER WORLD [March 1, 1899—page 155], including the testimony of Mr. Joseph W. Green, of the Glendale Elastic Fabrics Co., and of an English manufacturer.

The New York *Sun* says: "There are now 3500 cases of elastic braid importations and 3000 non-elastic braid cases awaiting adjustment on the decision of the court in favor of the 60 per cent. tax rather than one of 30 per cent. The amount involved annually to the government is in the hundreds of thousands of dollars, and the court's decision will save the government this amount."

VENTILATION OF A NEW MILL.

THE newly completed Olympia mills, at Columbia, S. C., designed by W. B. Smith Whaley & Co. (Boston) have been equipped with a somewhat novel arrangement of the blower system for heating and ventilating. Two 14 feet Sturtevant fans force the unheated air through horizontal underground ducts extending along both side walls. Branches from these ducts connect with vertical flues built in the side walls, and deliver air to the various floors. Instead of the usual coil arrangement at the fan, Sturtevant standard corrugated sectional base coils are placed in the main ducts where the flues connect with them. This arrangement was used in order that the amount of heat supplied to any part of the mill building could be controlled without affecting the air supply. It also saves the loss of heat in the main ducts in the basement, and permits the use of slightly smaller ducts on account of the lower temperature of the air. All apparatus for this system was furnished by the B. F. Sturtevant Co. (Boston.)

INDO-CHINA RUBBER.—The exports from this quarter during 1900 amounted to 756,680 pounds, against 116,160 pounds in 1899 and 19,800 pounds in 1898.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED MAY 7, 1901.

- N O. 673,570. Process of refining characteristic gums of Gutta-percha. Edwin F. von Wilmowsky, Boston.
 673,672. Life preserver. Hachig A. Ayvad, Hoboken, New Jersey.
 673,776. Toy balloon. Marcus Kavanagh, Chicago.

ISSUED MAY 14, 1901.

- 673,872. Support for the neck and head. Charlotte von Hillern-Flinsch, Hamburg, Germany.
 674,022. Vehicle tire. Frank A. Seiberling, Akron, Ohio.
 674,060. Apparatus for vulcanizing articles of caoutchouc. Henri Hamet, Paris, France.
 674,251. Automatic tire inflating apparatus. Tillman H. Anderson, Indianapolis, Indiana.
 674,256. Traction tire for vehicles. Howard M. DuBois, Ashburn, Pennsylvania.
 674,333. Tire for wheels. William J. Daningburg, New York city, assignor of one half to Frank M. Eldredge, Brooklyn.

ISSUED MAY 21, 1901.

- 674,436. Pneumatic tire. Wallace Novintree, Mays Landing, New Jersey, assignor to John A. Wiedersheim, trustee, Philadelphia.
 674,478. Solid rubber vehicle tire. Frank A. Seiberling, Akron, Ohio.
 674,500. Rocker cushion. Joseph H. Fink, Kansas City, Missouri.
 674,636. Heel cushion. James Priestman, New York city.
 674,653. Horseshoe. William E. Messacar, Albion, Michigan.
 674,655. Non slipping horseshoe. John Patrick, Chicago.

ISSUED MAY 28, 1901.

- 674,872. Material applicable for valve packing or other purposes. Arthur Nixon, Manchester, England.
 675,064. Vehicle tire. Albert De Laski, Weehawken, New Jersey.
 675,164. Pneumatic tire and method of making same. Theron R. Palmer and Frank X. Berrodin, Erie, Pennsylvania, assignors to Pennsylvania Rubber Co.

DESIGN PATENTS.

- 34,475. Water bag. Christian Wm. Meinecke, Jersey City, New Jersey. May 7, 1901.
 34,557. Golf ball. Sydney John Cooper, Ealing, England. May 21, 1901.

TRADE MARKS.

- 36,430. Insulating materials for electrical purposes. Marshall Brothers, Vorklyn, Delaware, "Insulate." May 14, 1901.
 36,431. Pulley exercisers. Alexander Whitely, New York city. "Alex. Whitely." May 14, 1901.
 36,436. Elastic rubber bands. The B. F. Goodrich Co., Akron, Ohio. May 21, 1901.
 36,471. Certain named boots, socks, rubber goods, wool goods, and clothing. Mishawaka Woolen Manufacturing Co., Mishawaka, Indiana. May 28, 1901.
 36,481. Certain named substances of the nature of rubber. The Standard Paint Co., New York city. May 21, 1901.

ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

8255. Charles Edward Masterman, Birkbeck Bank chambers, Chancery lane, London. Method of charging pneumatic tires. April 22.
 8388. William Frederick Williams, 53, Chancery lane, London. Improvements in tires and tire covers. April 23.
 8437. Ernest Alexander Claremont, 4, Bloomsbury square, London. Improvements in the manufacture of vulcanized electric cables. April 24.
 8589. Robert Isherwood, 8, Quality court, Chancery lane, London. Improvements in pneumatic tires for carriages and bicycles. April 26.
 8761. Johann Jakob Ziegler, Baden, Germany. Elastic bearings for bicycles. April 29.
 8832. Herbert Easton, Teddington. Improvement in pneumatic tires. April 30.
 8897. Oliver Imray, Birkbeck Bank chambers, Chancery lane, London. Improvements in the manufacture of pneumatic tires. [Frank Albert Wilcox and Theron Risser Palmer, United States.] April 30.

8996. Carl Wenigmann, 18, Buckingham street, Strand, London. Improvements in teats for feeding bottles. May 1.
 9153. Robert Mark and William Mark, Brampton, Cumberland. Improvements relating to prevention of punctures to pneumatic tires. May 3.
 9230. James Best, Glasgow. India-rubber ring for umbrellas. May 4.
 9249. Dermot O'C. Donelan, Dublin. Improvements in pneumatic tires for cycles and vehicles. May 4.
 9361. Charles Reeves, 55, Chancery lane, London. Improvements in coin freed tire inflating machines. May 6.
 9588. Lucas Stadler, 45, Southampton buildings, Chancery lane, London. Improvements in tires for vehicles. May 8.
 9627. John Wheeldon, Sheffield. Improvements in protecting pneumatic tires from puncture. May 9.
 9655. William Frederick Hinton, 8, Quality court, Chancery lane, London. Improvement in pneumatic tires. May 9.
 9665. John Albert Score, 48, New Kent road, London. Improved method of attaching tire covers to rims. May 9.
 9900. May Rath, Anerley, Surrey. Improvements in pneumatic tires for vehicles. May 13.
 9920. James Thame and The Southwestern Rubber Co., Limited, 1, Queen Victoria street, London. Improvements in the treatment of crude rubber. May 13.
 9930. William Thomason Goud Ellis and James Grant, Glasgow. Improvements in tires for cycles and vehicles. May 14.
 10,012. Ambrose Samson, Finsbury, London. Improvements in cushioned wheels. May 14.
 10,082. Ernst Matschull, 65, Chancery lane, London. Improvements in covering pieces for injured parts of pneumatic tires. May 15.
 10,225. Richard Finch and George Evans, 22, Southampton buildings, Chancery lane, London. Improvements in relation to pneumatic tires. May 16.
 10,253. John Almond and Anna Eliza Almond, Manchester. Improvements in apparatus for removing India-rubber from the covers of tires. May 17.
 10,418. John Hambleton Kitchen, 36, Chancery lane, London. Improvements in apparatus for inflating tires. [Joseph Cowper Booth, Victoria.] May 20.
 10,467. Robert John Baldrey, Ootacamund, Nilgiris, India. Non-collapsible, polytube, pneumatic tire, for bicycles and vehicles. May 20.
 10,639. William Birch and Frederick William Cooper, Sheffield. Flap frames for vertical air shafts and horizontal air grates. May 23.
 10,658. Harry Grayson, Manchester. Device for protecting inner tubes of tires from puncture. May 23.
 10,774. James Fowler Catley, Beeston Hill, Leeds. Tire repairer. May 25.

PATENTS GRANTED—APPLICATIONS OF 1900.

397. Swimming appliances (webbed glove). Emerich of Varga and Zilahi, D., Budapest, Hungary. January 6, 1901.
 409. Machine for molding bottle stoppers. MacLean, A. B., Leeds, Yorkshire. January 8, 1901.
 527. Non-puncturable pneumatic tire. Despaignet, J., Salignac (Gironde), France. January 9, 1901.
 592. Tire tread, and method of attaching. Hunt, C. W., West New Brighton, New York. January 10, 1901.
 963. Soft rubber trusses. Boulton, A. J., 111, Hatton garden, Middlesex. [Browne, R. W.; Washington, District of Columbia.] January 16, 1901.
 1102. Life belts. Thomas, H. J., Rosslyn, Essex. January 17, 1901.
 1154. Tire shield. Tripp, J. S., Rochester, New York. January 18, 1901.
 1461. Pneumatic tire. Jensen, P., 77, Chancery lane, Middlesex. [Gottschalk, G. H., and Possell, G. W.; Milwaukee, Wisconsin.] January 23.
 1649. Self inflating pneumatic tire. Morgan, C. G., 13, King William street, London. January 25, 1901.
 1658. Exercising apparatus. Ryan, M. B., 17, St. Germans road, Forest Hill, London. January 26, 1901.
 1681. India-rubber horseshoe. Hahn, A., No. 356 Grand street, New York. January 26, 1901.
 2279. Horseshoe pads. Prince, P. P., 71, rue Desjardins, Angers (Maine et Loire), France. February 5, 1901.
 2341. Devulcanizing India-rubber. Boulton, A. J., 111, Hatton garden, London. [Marks, A. H., Akron, Ohio.] February 6, 1901.
 2378. Soles for boots and shoes. Reinecke, F., Magdeburg, Germany. February 6, 1901.



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DEATHS IN THE RUBBER TRADE.

LEWIS ELLIOTT is dead. The name will be recalled by some rubber men who have spent well nigh a lifetime in the trade, as that of a successful factory superintendent as far back as they can remember. Not only did Lewis Elliott make a high record for efficiency in the Candee rubber factory, which was in his charge for more than forty years, but in every capacity in life he was known to his fellow citizens in New Haven for his steadfast integrity, and he was distinguished for his intelligent interest in the welfare of the city.

Mr. Elliott was born seventy-seven years ago in the city of Manchester, New Hampshire. His first effort at self support was at Hartford, Connecticut, where he worked at shoe cutting for H. H. Freeman. Like the normal venturesome New England boy, he had a taste for the

sea, and more than once sailed on coasting vessels along the Atlantic, working his way. Once he crossed the ocean, and on his return was offered a position as second mate of the ship, but by this time he had seen enough of the sailor's life to prefer some business ashore. He learned to make leather shoes by hand—then an important industry.

In 1850 young Elliott became connected with the factory of The L. Candee & Co., who, since 1842, had been making rubber shoes, in a small way, at Hampden, Connecticut. The processes were very crude, as the business was in every way a new one. Mr. Elliott used to cite an instance of this crudeness. The Pará rubber, softened by camphene, was ground in a sort of pug mill before it was possible to apply it to the cloth. At the time the young man came to the company they had just bought the land upon which their present plant stands, in New Haven. Their first move was to erect a factory building, in which rubber shoes were made. "We were not as well equipped in the way of machinery as we are to-day," remarked Mr. Elliott forty years later. "Our plan for frictioning was to friction one side with rolls, and then coat the other by means of a huge knife spreader. When that side got dry, however, it did the work and the shoes sold very well."

In 1856 the Hampden plant was abandoned and the whole business of the Candee company concentrated at New Haven. From that time on, for twenty-one years, was one steady record of progress. Mr. Elliott, who had already become superintendent, had complete control in the mill, and kept adding buildings, machinery, and operatives, and was constantly on the alert for new and more economical processes. November, 1877, brought an interruption in the shape of a fire that reduced the whole plant to ashes. In a short time, however, it was rebuilt

and arranged better than before. A matter of deep regret to Mr. Elliott in connection with this fire was the loss of his collection of curiosities in the way of early and forgotten shapes, lasts, etc. Mr. Elliott was an indefatigable worker. For many years it was his rule to go to the factory at 5 A. M., and often he did not leave it until after midnight. What he was to the Candee company, its splendid plant and its well made goods testify. On January 1, 1894, Mr. Elliott resigned from the more active and responsible duties of his position, and gradually ceased to maintain a connection with the factory.

Mr. Elliott served the city of New Haven efficiently for several years as a fire commissioner, the board of which he was a member having been an exceptionally good one, and in other ways he manifested an interest in the general good. His latter years were spent quietly, and the end came on June 12, as he lay at his home, in the afternoon. He is survived by a son and two daughters, all now residents of New Haven—Lewis A. Elliott, formerly a druggist in that city; Mrs. James J. Johnston, whose husband is in the employ of the Candee company; and Mrs. George T. Fifield.

JOHN C. HARDMAN.

JOHN C. HARDMAN, treasurer of the Hardman Rubber Co., of Belleville, New Jersey, died on June 6, at St. Barnabas's hospital, in that town, as the result of complications following an operation to which he had submitted a few days before. Mr. Hardman, who had been in failing health for the past year, left Belleville on a business trip through the South and West in the latter part of April and had gone as far as San Antonio, Texas, when his condition grew worse. He went to St.

Louis, and, when he did not improve, decided to return immediately to his home in Belleville. By the advice of his physician he was taken to the hospital, where, after a few days, his life came to an end.

Mr. Hardman was born, 45 years ago, at Taunton, Massachusetts, where he became interested in mechanical employments. In time he became manager



JOHN C. HARDMAN.

of a large watch case manufactory in Philadelphia. Later he joined the Riverside Rubber Co., at Belleville, established by his brother, James Hardman, Jr., in 1878, where, for ten years, and until his death, he was manager of the sales department. Recently the company adopted the name Hardman Rubber Co. He was one of the most popular men in the rubber trade, and had many friends in business circles, wherever he was known.

Funeral services were conducted at the late residence of Mr. Hardman on Saturday afternoon, June 8, by the Rev. Cornelius S. Abbott, rector of Christ Episcopal church, at Belleville, and

the interment was at Mt. Pleasant cemetery. The honorary pallbearers were George M. Allerton, of New Haven, Conn., and Henry C. Burton and George F. Hodgman, of New York—members of the rubber trade; Andrew Schneider, of Newark; John H. Eastwood and A. H. Osborne, of Belleville. The active pallbearers were heads of departments in the rubber works: Thomas Murray, J. H. Hand, George L. Conover, R. S. Westervelt, Charles Hellweg and John Trescher.

REGARDING TITLES TO RUBBER LANDS.

THE first consideration, where one contemplates going into the cultivation of India-rubber or other tropical products in Mexico, naturally relates to the land. The greatest and perhaps the first difficulty that besets the purchaser of lands in Mexico is in the matter of titles. Many titles are imperfect and require great expenditure of time and money to overcome the difficulties of perfecting the same; and even should the titles be good, it requires about the same expenditure to prove them so, unless purchases are made from parties or a corporation who have been put in judicial possession of their lands. The Mexican Coffee and Rubber Growers' Association has been put in judicial possession of its holdings of over 100,000 acres by the Mexican government, and its titles have been passed upon by the ablest lawyers in Mexico, who have pronounced them absolute and perfect, and purchasers can therefore enter into immediate possession of their purchases. Another advantage had by purchasers from the Association is that the Association is developing several large plantations for itself and maintains a storehouse from which supplies may be drawn. All these facilities the Association offers to the purchasers of its lands. This is vastly different from going off into a wilderness, far from civilization and with no accessible base of supplies. The lands of the Association were chosen over three years ago by a committee which visited the whole of tropical Mexico, on account of their great fertility, their healthfulness, and their easy access to the markets of the world. Rubber grows wild here, and its cultivation has been begun on these lands under conditions which give promise of great success.

STRIKE IN A GERMAN RUBBER FACTORY.

THE women employed in the shoe department at the Harburg works of the Vereinigte Gummiwaaren-Fabriken Harburg-Wien left their work before noon on March 19, without any previous notice of their intention to do so. Director Louis Hoff, on inquiring the cause, was told that, on account of a change in the finish in certain styles, it was impossible to earn as much money as formerly. He advised the employes to return to work, promising that an advance in wages would be made when he could confer with Director Maret, then absent in Austria. They did return to the factory in the afternoon, but remained idle while a committee of five called upon Director Hoff to demand a general increase in wages. This was declined, in the absence of Senator Maret. The workwomen did not appear at the factory on the next day, but instead held a meeting under the leadership of a well known socialist who is not an employe of the rubber company, at which resolutions were adopted, demanding more pay and the discharge of the employes who remained at work. Meanwhile 200 men, whose work was dependent on the stock prepared for them in the shoe department, had to be laid off.

After several meetings, and conferences with the management, at which, although the strikers were courteously received,

their demands were for the most part refused, a general strike in all the departments was ordered on May 18. In the *interim* the company had issued a bulletin requiring the employes who had left their work in the shoe department to return not later than May 14, or consider themselves permanently discharged. For those who returned, permanent employment was promised, with protection against any violence from those who remained out. After the general strike was ordered, the company declined further to recognize the employes' committee, charging them with bad faith, and giving notice that former employes asking for work would receive the same treatment as new comers, of whom 150 had been employed. The strikers then sought the intercession of the mayor of Harburg, in the interest of (1) an advance in wages on canvas shoes; (2) the reinstatement of all the former employes; (3) the discharge of those who remained loyal to the company; and (4) the discharge of all the new employes.

The rubber company refused to recede from their position, in which they were supported by the Verein der Arbeitgeber für Harburg und Umgegend (Society of Employers of Harburg and Vicinity), which offered a reward of 100 marks for information leading to the conviction of any person interfering with those who returned to work. On May 29 the company was running all its departments, with 828 people employed, and expecting soon to have a complete force. More recent reports are to the effect that the strikers were still holding meetings, while the company were adding to the number of people at work. The *Gummi-Zeitung* predicts the ultimate failure of the strike.

OTHER NOTES FROM EUROPE.

PIRELLI & CO., the Italian rubber manufacturers, have arranged to establish in Spain a branch of their submarine cable works, in preference to paying the Spanish duty on imports. Their capital will be increased from 5,500,000 to 6,500,000 lire. The net profit in the last business year amounted to 550,878 lire, and a dividend of 10 per cent. was declared.

=Herr S. Seligmann, one of the directors of the Continental Caoutchouc and Gutta-percha Co. (Hanover, Germany), celebrated recently the twenty-fifth anniversary of his connection with that company. Herr Seligmann was formerly in the banking business from which he retired to take the financial management of the Continental company, in which he has achieved a signal success, working in conjunction with Herr A. Prinzhorn, the technical director of the rubber works.

=Isidor Frankenburg, Limited (Manchester), in addition to their extensive mackintosh and cable making branches, are taking on the production of rubber canvas shoes on a large scale.

=Under the name Verband Oesterreichischer Kautschukwaaren-Fabriken, the rubber manufacturers of Austria, at a meeting in Vienna on March 14, formed an association for their mutual benefit, particularly with a view to securing desired legislation. A. Vogl, a director in the Vereinigte Gummiwaaren-Fabriken Harburg-Wien, was elected president; Karl Kuhlemann, director in Oesterreichisch-Amerikanischen Gummifabriks A.-G., Vienna-Britensee, vice president; and Wilhelm Reithoffer, of the firm of Josef Reithoffer's Söhne, Vienna, secretary.

=The Austro-Hungarian consul general in Cape Town advises Austrian waterproof manufacturers that the Cape is a splendid place for the disposal of such goods.

=The directors of the Vereinigte Hansschlauch und Gummiwaaren-Fabriken, of Gotha, Germany, recommended a dividend of 9 per cent. for the last business year, against 7 per cent. for the year preceding.

NEWS OF THE AMERICAN RUBBER TRADE.

TUSCARORA RUBBER CO.

WORK is reported to be in progress on a three story brick factory building, 48x100 feet, at Beach City, Ohio, in the central part of the state, to be operated by the company above named. This company was originally the Valley Rubber Co., with a factory at New Philadelphia, Ohio, which was burned down shortly after its completion. The company was reorganized at New Philadelphia, since which time various suggestions have been made with regard to removing to Akron and other points. The location at Beach City has been decided upon in view of a bonus from the citizens at that place. Those mentioned in connection with the enterprise are Dr. L. S. Schweitzer, who was president of the original company; D. O. Webster, S. M. Anderson, and William Coney. Dr. Schweitzer is to be business manager and J. D. Martz traveling salesman. The capital is reported at \$25,000, and it is proposed to manufacture tires and specialties.

BLACKSTONE RUBBER CO.

REGARDING this new company, reported in the last INDIA RUBBER WORLD as having been incorporated by parties at Providence, R. I., under Maine laws, one of the incorporators writes to us: "In answer to your inquiry we would say that this company has been formed to manufacture the Harris patent leather soled boot. The parties behind the company are prominent rubber people, but do not care just at present to have their identity known."

THE NEW CENTURY RUBBER CO.

AN official of this new company, organized to reclaim rubber by a new process, advises us as follows in regard to the factory at Burlington, New Jersey: "Increasing the size of boiler and engine, and getting some extra machinery that the superintendent, Mr. Thomas Harmer, wanted, on account of the satisfactory results of his experimenting, have delayed us in getting the factory started before June 20."

BOSTON BELTING CO.

THE regular quarterly dividend (No. 127) of 2 per cent. is payable July 1, 1901, to shareholders of record at the close of business on June 15. Boston newspapers state that the latest quotation for this company's stock was 212½.

FIKSK RUBBER CO. IN SYRACUSE.

THE Fisk Rubber Co.'s branch at Syracuse, New York, in charge of A. G. Bolster, manager, has grown, since January 1, 1899, from desk room in a very small tire repair shop to a store of three stories—No. 423 South Clinton street—with capacity for storing 15,000 pairs of tires. Mr. Bolster has also got up a steam vulcanizer, and, by his personal supervision, has built up the largest tire repair business in central New York. The new vulcanizer, by the way, has attracted favorable attention in all parts of the country, and Manager Bolster has just received an order to ship one to England.

RUBBER BELTING FOR NEW GRAIN ELEVATORS.

THE new elevator of the Great Eastern Elevator Co., at Buffalo, New York, has a storage capacity of 2,201,020 bushels and a handling capacity of 30,000 bushels per hour. The contractors were the Steel Storage and Elevator Construction Co. (Buffalo). The rubber belting, supplied by the Diamond Rubber Co. (Akron, Ohio), consists of 10 conveyor belts, four ply, 36 and 40 inches wide, and aggregating 2851 feet; and 15 bucket belts, 20, 22, and 26 inches wide, 5, 6, and 7 ply, and

having a total length of 2732 feet.—Another large new elevator in the same city is that of the Buffalo Elevating Co., with 1,250,000 capacity. The rubber equipment embraces 9 bucket belts, seven ply, 22 and 30 inches wide, of a total length of 2626 feet, and 2 conveyor belts, four ply, 40 inches wide, and aggregating 1072 feet.—The operating power in both these elevators will be electricity.

NEW JOBBING HOUSE AT COLUMBUS, OHIO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We will open up about July 1 an exclusive rubber house under our present name, in Columbus, Ohio, Nos. 44-46 West Naghten street. This branch house is to take care of our rapidly increasing business throughout Ohio, West Virginia, and eastern Kentucky. We will carry a full line of the Hood and Old Colony rubbers, and also combinations. Our firm is composed of A. P., G. P., and I. W. Butterworth, and H. W. Lushey, the latter two of whom will be associated with the new enterprise. The fact that the state of Ohio has about 4,500,000 people and not an exclusive house jobbing rubbers, has led us to believe there is a big field in this section for such an establishment as we have planned.

MARION RUBBER CO.

Wholesale Rubbers and Felts, Marion, Indiana, June 15, 1901.

THE SINGER MANUFACTURING CO.

THE regular quarterly dividend of 1¼ per cent. was payable on June 29 to shareholders of record on June 19. The shares of the company were quoted recently in New York at 245.

RUBBER GOODS MANUFACTURING CO.

THE directors, at a meeting in New York on June 3, declared the regular quarterly dividend (No. 9) of 1¼ per cent. on the preferred shares, payable June 15 to holders of record June 7. The directors also declared dividend No. 5 of 1 per cent. on common stock, payable July 15 to holders of record July 3. Transfer books will be reopened July 15.—The following is a record of transactions in Rubber Goods shares on the New York Stock Exchange:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 4..	35,060	38¼	31⅞	4,702	90	86
Week ending May 10..	10,285	37	28	3,000	86¼	80
Week ending May 18..	6,225	32⅝	30	580	82	80⅛
Week ending May 25..	5,100	34½	32	375	83	82½
Week ending June 1..	1,750	34	32½	100	83½	83½
Week ending June 8..	1,100	33½	32½	572	83	79¾
Week ending June 15..	2,860	33¾	31	215	79	78½
Week ending June 22..	5,596	31½	29	1,700	79½	78

—It is stock market gossip that the company's surplus has increased \$500,000 as the result of the large business done since the annual meeting in February.

A NEW PLANT FOR THE STURTEVANT COMPANY.

THE B. F. Sturtevant Co. (Boston) has recently completed the purchase at Hyde Park, Mass., of a tract of land containing 15 acres or more, and is preparing plans for the erection thereon of a large up-to-date plant for the manufacture of blowers, engines, motors, forges, heating apparatus, etc. This purchase, although hastened by the recent fire which damaged the works at Jamaica Plain, and which eventually will be abandoned, is the natural outcome of the rapid growth of this concern during the past few years and of the congested condition of the present plant in which increased facilities could not be advantageously provided. The new site is on the same railroad line—

the New York, New Haven and Hartford—only five miles from the old plant and less than ten miles from Boston. The new plant will be arranged to reduce to a minimum the labor cost of handling material, and will provide for its direct progress through the shop from foundry to shipping room.

ANOTHER "KERITE" CABLE FOR ALASKA.

W. R. BRIXEY is manufacturing, at Seymour, Connecticut, for the United States government, a submarine cable, to be about 125 miles long, and intended to connect Juneau and Skagway, Alaska. It is a single conductor cable, made up of seven No. 21 wires, insulated with "Kerite" compound to a diameter of $\frac{9}{32}$ inch, taped, juted, and armored with No. 9 galvanized steel wire, over which there is a covering of two layers of jute saturated with a preservative compound. The cable will be coiled in gondola cars and shipped by rail from the factory to Seattle, Washington, and there coiled into the hold of a vessel chartered by Mr. Brixey for laying the cable. It is expected that the cable will be laid in the latter part of this month. George F. Porter, who is Mr. Brixey's manager, is already in Alaska arranging details.—Mr. Brixey has already laid a cable 132 miles long between Cape Nome and St. Michael, Alaska, besides supplying a considerable quantity of deep sea cable for the government for use among the Philippine Islands.

RUBBER COMPANY REPORTS.

THE American Rubber Co., May 6, 1901 :

ASSETS.		LIABILITIES.	
Land and water power.	\$ 37,287	Capital stock	\$1,000,000
Buildings	148,617	Debts	460,000
Machinery	136,927	Balance profit and loss	300,552
Cash and debts receivable	1,084,280	Reserve for deposits	865,734
Stock in process	1,223,173	Total	\$2,635,286
Total	\$2,635,286		

Woonsocket Rubber Co., March 30, 1901 :

ASSETS		LIABILITIES	
Real estate	\$ 925,673	Capital stock	\$3,000,000
Machinery	345,137	Debts	1,831,722
Cash and debts receivable	1,771,136	Fixed surplus	414,905
Goods and stock in process	2,454,246	Balance	249,565
Total	\$5,496,192	Total	\$5,496,192

HARDMAN RUBBER CO. (BELLEVILLE, N. J.)

It is announced that the sales department is now in charge of Silas Schwerin, the secretary of the company, for whom the company bespeak the same kind consideration as was extended to his predecessor, the late John C. Hardman.

LINSEED OIL COMBINE.

THE plan of merger of the American Linseed Co. and the Union Lead and Oil Co., mentioned in the last INDIA RUBBER WORLD, was not carried out. Instead, Standard Oil interests seem to have acquired a controlling interest in the American Linseed Co., which will remain a separate company. An important interest, however, is held by the Union Lead and Oil Co., which will be represented in the directorate. Guy G. Major, late president of the American Linseed Co., has been succeeded by Fred T. Gates, and is reported to have organized a new linseed oil company with a view to establishing mills in the west. The whole history of consolidation in the linseed oil business seems to have been one of speculative mismanagement and disaster, but the opinion prevails that under the new régime the business will be placed on a more stable basis. The Standard Oil Co. have been large distributors of linseed oil, especially in the south, which may explain the latest development. Standard Oil interests are reported to control the National Lead Co.,

the largest factor in the white lead trade, and a combination of the latter with the Linseed company has been suggested as possible.—Land is reported to have been purchased June 8, at Toledo, Ohio, for the largest linseed oil mill in the world, by a company embracing Guy C. Major, late mayor of Toledo, and a practical linseed oil man.—An advance in the price of linseed oil of 5 cents a gallon was announced on June 22, following an advance of 4 cents earlier in the week. This brought the price of City oil up to 70 cents and Western oil to 68 cents.

RUBBER HOSE FOR A CHICAGO PARK.

THE South Park commissioners, Chicago, on June 12, opened bids for 18,000 feet of 3 ply hose, to be mainly 1 inch diameter, bidders to quote for "coupled" and "uncoupled." The bids ran :

BIDDERS.	COUPLED.			UNCOUPLD.		
	1 in.	1½ in.	2 in.	1 in.	1½ in.	2 in.
No. 1.....	8	10¼	14½	7¾	9¾	13½
No. 2.....	8	16	22	7¾	15	20
No. 3.....	..	..	..	8	15	20
No. 4.....	8½	12¾	17	8	12	16
No. 5.....	..	..	..	8	12	16
No. 6.....	9½	..	..	..	..	..
No. 7.....	12.34	18.88	25.44	12	18	24
No. 8.....	..	18	24¼	..	17	22¾

The firm second on this list were the lowest bidders last year, and the park superintendent writes: "Their hose was satisfactory, considered as a one-season hose. We shall compare samples closely, as between the two low bidders, and award accordingly."

REDUCED RATES FOR BUYERS IN NEW YORK.

THE Merchants' Association of New York announces that reduced rates—1⅓ fares for round trip—have been arranged for buyers coming to New York during the fall buying season, over all territory between the New England boundary line and the Mississippi, and south to the line of the Ohio and Potomac rivers. The dates are August 3 to 7, inclusive, and August 24-28 inclusive, with a return limit of 30 days.

BANIGAN RUBBER EXHIBIT AT BUFFALO.

AN exhibit of rubber boots and shoes manufactured by the Joseph Banigan Rubber Co. appears at the Pan-American Exposition, in a booth designed outwardly to represent a rubber gatherer's hut in the Amazon river country. It has a thatched roof, with a rubber tree trunk and branches of other trees as supports. There is an exhibit of rubber gathering implements, and specimens of rubber crude and in various stages of manipulation in the factory. Three old "pure gum" shoes, of the ante-Goodyear period, and brought by the late Joseph Banigan from Brazil, appear in the display, in contrast with which is an attractive assortment of the latest and best Banigan products in rubber footwear. This display is in charge of Edward R. Rice, of Buffalo, one of the selling agents of the company, and is located in the Manufactures building.

"RUBEROID" FLOORING STANDS A SEVERE TEST.

THE Standard Paint Co. (New York) have removed their offices from No. 81 John street—where their warehouse still remains—to No. 100 William street, into larger and better appointed quarters. The company are manufacturers of the "P. & B." products, including the "P. & B. Ruberoid." An interesting feature in the equipment of the extensive new offices is that they are floored throughout with "Ruberoid." One of the old offices, in John street, was, years ago, floored with this material, handsomely decorated. Not only was the experiment successful, but when the company were obliged to move, to find more room for their increasing business, the old "Ruberoid" flooring was found to be in such good condition

as to warrant its transfer to the new quarters, where it is now doing duty, apparently as good as new, after years of service. —The "P. & B." exhibit made by this company at the Paris Exposition of 1900 was described and illustrated in THE INDIA RUBBER WORLD at the time. They have an equally effective display this year at the Pan American Exposition at Buffalo. —Mr. Ralph L. Shainwald, president of the Standard Paint Co., sailed from New York on June 6, intending to spend the summer in Europe on business. They have a European factory and agencies throughout Great Britain and in leading cities on the continent.

DIAMOND RUBBER CO. IN HARD RUBBER.

It is authoritatively stated that the Diamond Rubber Co. (Akron, Ohio) have determined to engage in the manufacture of hard rubber goods on an extensive scale. They are at present turning out an attractive line of samples. —During the month the company awarded contracts for the construction of a new five story brick building, 325x80 feet, which, it is understood, will be devoted wholly to the manufacture of tires. The building now occupied by their tire department may be devoted, in part, to the making of hard rubber goods.

UNITED STATES RUBBER STOCKS.

THE following is a record of transactions on the New York Stock Exchange, for several weeks past :

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 26	4,075	21½	20½	1,185	63	60
Week ending May 4	3,970	23½	20¾	3,910	65	60
Week ending May 10	5,870	23	19¼	3,550	64½	60
Week ending May 18	4,900	21¾	20½	2,032	63½	62
Week ending May 25	10,440	24	20½	6,820	67	61½
Week ending Jun. 1	1,820	21¾	20½	757	62½	61¾
Week ending Jun. 8	4,430	21½	20½	1,313	63½	62½
Week ending Jun. 15	4,875	22¼	20¾	1,600	65	62½
Week ending Jun. 22	3,100	22	20½	1,817	62½	60¼

A sworn statement filed with the Massachusetts commissioner of corporations on June 5, 1901, as required by the laws of that state, showing the condition of the company's affairs March 31, 1901, contains some details which do not appear in the company's annual report, for which reason the figures are given here :

ASSETS.

Real estate, buildings, machinery, furniture and fixtures	\$ 1,700,902 26
Cash and debts receivable	1,433,646 78
Manufactures, merchandise, material, stock in process	1,259,353 31
Patent rights	215,417 38
Loans secured by mortgage	30,000 00
Investments in stocks of other companies	45,377,036 13

Total..... \$50,016,355 86

LIABILITIES.

Capital stock, preferred	\$23,525,500 00
Capital stock, common	23,666,000 00
Debts, general	1,648,693 58
Debts, for goods sold	1,151,149 27
Balance, profit and loss	25,013 01

Total..... \$50,016,355 86

PROFITS OF AMERICAN CHICLE CO.

THE regular quarterly dividend of 1½ per cent. on the preferred stock and a dividend of 2 per cent. on the common stock have been declared, payable July 1. The amount to be disbursed will be \$45,000 on the preferred and \$120,000 on the common—a total of \$165,000. These stocks have been quoted during the month : Preferred—80 bid, 87 asked ; Common—80 bid, 82 asked. —Imports of Chicle into the United States during the ten months ended April 30 amounted to 2,336,668 pounds, against 1,963,182 pounds in the same period of the pre-

ceding year, and 1,710,039 pounds in the ten months ended April 30, 1899 A newspaper article reports the sales of the company at 135,000,000 packages per year, which, at 5 cents, gives a retail selling value of \$6,750,000.

RUBBER TIRE SUIT COMPROMISED.

THE suits of the Goodyear Tire and Rubber Co., Hartford Rubber Works Co., and the India Rubber Co. against the Consolidated Rubber Tire Co. for a permanent injunction restraining the directors of the Consolidated Rubber Tire Co. from retiring \$3,000,000 preferred stock and converting it into debenture bonds was disposed of on June 24, when Vice-Chancellor Pitney, at Jersey City, by consent of the two parties, raised the injunction preventing the issue of debenture bonds and retirement of the preferred stock and allowing the issue of the proposed bonds on condition that each bond shall contain a clause whereby the existing rights of creditors shall in no wise be prejudiced by reason of such issue. The proposition to put such a clause in the bond was made by the defendants in the case in the course of the argument in the injunction suit and was accepted by the plaintiffs. Previous to the agreement R. V. Lindabury, counsel of the Consolidated Rubber Tire Co., filed an answer denying all the charges of fraud and insolvency. The answer claimed that the Consolidated company have earned profits of \$80,000 in the last four months and that the present assets of the company are more than \$800,000 and that they can pay their debts many times over. Affidavits were filed in support of the answer.

NEW INCORPORATIONS.

THE American Belting Co. (Youngstown, Ohio), May 23, under Ohio laws ; capital, \$50,000. To manufacture canvas oil-stitched belting. Incorporators : J. Edwin Davis, J. S. McClurg, George F. Arrel, John F. Harrington, John E. McVey. A factory is being erected, with the idea of beginning work by August 1. The two leading incorporators are officers of the Mahoning Rubber Manufacturing Co.

—The Empire Rubber Shoe Co., May 31, under New York laws ; capital, \$50,000. Herman Clarke, president ; Charles P. Russell, secretary ; Clarence V. N. Radcliffe, treasurer ; W. H. Gorman, general agent, No. 82 Duane street, New York. These, and C. M. Swift, of New York, constitute the board of directors. This company have leased the factory of the Model Rubber Co. (Woonsocket, Rhode Island), as reported in the last INDIA RUBBER WORLD. The mill was started June 10, on samples, and later in the month a full start was made. Patrick J. Wren and Frederick Hadfield, who were among the incorporators of the Model Rubber Co. two years ago, and who had charge of the factory, have been employed by the new company to continue in charge of the manufacturing.

—The Pequannac Rubber Co. (Butler, New Jersey), June 10, under New Jersey laws ; capital, \$60,000. Incorporators : Joseph F. McLean, Charles J. Trent, Paul Witteck. The parties interested promise details for publication in our next issue.

—Ball Tire Co. (New York), June 19, under New Jersey laws, to manufacture vehicle tires ; capital, \$300,000. Directors : Mendel Presberger, Passaic, N. J. ; Maurice Moses and M. F. Moses, New York city.

—Pneumatic Syndicate Co., June 6, under New Jersey laws, to manufacture pneumatic horse collars ; capital, \$120,000. Incorporators : Henderson B. Hays, A. Livingston Norman, George W. Flaacke, Jr. Principal office : No. 1 Montgomery street, Jersey City. This, THE INDIA RUBBER WORLD was informed at the time, was "the preliminary organization of the American Pneumatic Horse Collar Co."

—The American Pneumatic Horse Collar Co., June 14, under New Jersey laws, to manufacture pneumatic horse collars ;

capital, \$2,000,000. Incorporators: Henderson B. Hays, George W. Flaacke, A. Livingston Norman. Officers: J. K. Tillotson, president; Edw. H. Cloud, vice president; N. B. Hays, treasurer; A. L. Norman, secretary. Office: No. 11 Broadway, New York. The collars to be made are such as are covered by the patents heretofore owned by the United States Pneumatic Horse Collar Co., now in liquidation.

TRADE NEWS NOTES.

A RECENT treasury department decision relates to the "draw-back" on flax or linen hydraulic hose manufactured by the Eureka Fire Hose Co., of New York, which indicates that this company must be getting a share of export trade that counts for something. The duty paid on imported yarns used in weaving the hose is refunded in case the product is exported.

=The Philippines commission have appropriated \$70,000 for a modern fire department for the city of Manila, with American engines and other equipment.

=The United States Waste Rubber Co. has been formed, at Brockton, Mass., mainly to deal in unvulcanized rubber cement waste, which is collected for them all over the country. The business is conducted by Alfred Freedman and Samuel Levin. Besides the Brockton office, they have branches at Stoughton, Mass., and No. 123 Endicott street, Boston.

=American firms are reported to have estimated lately on 31 miles of cable for a tramway extension in Sydney, New South Wales. The order went, however, to the British Insulated Wire Co., Limited, of Prescott, Lancashire, who make a specialty of paper insulation.

=The Durham Rubber Manufacturing Co. (Bowmanville, Ontario) are mentioned as running their factory fifteen hours a day and contemplating the erection of an additional two story brick building.

=The Hamilton Rubber Manufacturing Co. (Trenton, New Jersey) have recently added a frame building to their factory, to be used as a storage warehouse.

=Latta & Mulconroy Co. (Philadelphia), who were reported recently to have been damaged by fire, inform us that the tenants of the upper part of their building were burned out, but their own loss was so trifling that they made no report to the insurance company. They give credit for their good fortune to the firemen, who, by the use of rubber covers, prevented even the water from reaching Latta & Mulconroy's goods.

=Charles Blackador & Co. is the name of a new copartnership firm at St. Johns, New Brunswick, formed to handle a new rubber heel patented by Mr. Blackador.

=A "Japanese list" of rubber footwear, applying to goods made up expressly for the Japanese trade, appears in one of this season's catalogues of the United States Rubber Co.

=The Manhattan Rubber Manufacturing Co. (New York) are distributing among their customers a convenient packet labelled "Private Papers. Property of _____," which the average recipient will be apt to put into his pocket and make a practical use of. It will be a constant reminder, of course, of the Manhattan goods.

=The Delaware Rubber Co., a jobbing company at No. 244 Market street, Philadelphia, have obtained an injunction against the Manhattan Storage Co. and the Puritan Rubber Co., of that city, restraining them from selling any tires branded "Delaware Special," "Haverford," or "Union."

=The stock, fixtures, and good will of the Lowell Rubber Co. (Lowell, Mass.) have been purchased by Harry C. Kittredge, who will continue the business.

=The Monarch Rubber Co. (St. Louis) are reported to have booked orders recently for rubber shoes, from Boston and elsewhere in New England.

=The Ohio Rubber Co. (Nos. 204-206 Superior street, Cleveland), who have the exclusive sale of the Interlocking rubber floor tiling in Ohio, have been engaged lately in filling some important contracts, for public buildings and banks.

=The enterprising head of the O'Sullivan Rubber Co. (Lowell, Mass.) does not intend that any chance for legitimate advertising shall get by him. This was proved in the Boston papers recently, where the story was told of a man walking through the corridors of Young's Hotel and, feeling that something was embedded in the heel of his shoe, was delighted to discover that it was a pearl. The heel being an O'Sullivan heel, the company at once sent the story out broadcast, and it is being very widely quoted.

=George H. Carter, of the J. F. Carter Co., Beverly, Massachusetts, has brought suit against The A. J. Tower Co. (Boston), asking \$10,000 damages for alleged infringement of a patent for the manufacture of waterproof cloth used in the making of oiled clothing, and praying for a perpetual injunction against the use of the process.

=The Monarch Rubber Co. (St. Louis, Mo.) have departed from the usual line of packing cases used in rubber shoe factories. Instead of having them built of pine, they are having them built of cottonwood, which weighs from one-third to one-half less than the former, and thus saves freight.

=A certain rubber jobbing house keeps standing an offer of "\$5 reward for first information of fire hose wanted" in any town.

=Manager James Suydam, of the Goodyear Rubber Co. (St. Paul, Minnesota), recently visited Winnipeg in the interest of the trade in "Gold Seal" rubber footwear, which finds some sale in the Dominion of Canada, in spite of a duty of 25 per cent.

=The New Jersey Car Spring and Rubber Co. are understood to have had most satisfactory results in the sale of the "Wemaka" solid vehicle tire, which is now controlled from their head office.

=It is reported that more hands are employed in the factories of the Boston Rubber Shoe Co. than at any time for years.

=There is an idle starch factory at Waukegan, Illinois, which somebody from Chicago has been looking over, to see if the plant is suitable for a hard rubber works.

=The B. F. Goodrich Co. (Akron, Ohio) have recently created two new offices, that of Manager of Sales, and Assistant General Superintendent, the places being filled by H. E. Raymond, and E. C. Shaw, both of whom are known as active and capable Goodrich men.

=One criticism that golf experts have made regarding the Haskell ball was that the markings were so shallow that the ball did not fly accurately. This defect, however, has been remedied, this season's ball being marked as deeply as any and is really as pretty a piece of Gutta-percha molding as can well be imagined.

=Betzler & Wilson (Akron, Ohio), manufacturers of hard rubber specialties, are about to engage in the manufacture of dental rubber.

=The Kelly Springfield Rubber Tire Co. (Davenport, Iowa), incorporated August 31, 1899, in spite of their name, announce that they have no connection with any other company. They are marketing solid wired-on carriage tires.

=Sectional Pneumatic Tire Co. (Binghamton, New York), incorporated lately to manufacture a new tire, have made some changes in their organization. The officers now are: E. C. Inderlied, president; B. A. Baumann, vice-president; F. J. Baumann, treasurer; R. D. Bundy, secretary; W. L. Bundy, general manager; Charles Miller [patentee] superintendent.

=The directors of the Dunlop Company of Australia, Limited, at their recent half yearly meeting in Melbourne, declared *interim* dividends at the rate of 7 per cent. yearly on the cumulative preference shares, 7½ per cent. on the deferred preference shares, and 5 per cent. on the ordinary shares. It is expected that the new factory which this company are erecting will be able to earn good returns by reason of the Australian import duties on rubber goods, apart from any other reason.

INDIA-RUBBER AT THE PAN-AMERICAN.

WHILE the rubber industry as a whole cannot be said to be adequately represented at the Pan American Exposition, at Buffalo, creditable exhibits are made by a few leading firms. Besides the Banigan rubber footwear display, referred to in another column of this paper, the following firms may be mentioned as making exhibits of rubber goods:

Boston Belting Co.
New York Belting and Packing Co., Limited.
Revere Rubber Co.
Pennsylvania Rubber Co.
Goodyear Tire and Rubber Co.
American Wringer Co.
Robins Conveying Belt Co.

The Bridgeport Gun Implement Co. exhibit golf balls. The exhibit of John A. Roebling's Sons Co. includes insulated wire. An exhibit is made by the Emery Tire Co. Further references to these displays will be made at a later date. In the way of crude rubber, specimens are shown in the Mexican exhibit, and doubtless others will appear later in the special buildings being erected by other Latin American countries.

PLYMOUTH RUBBER CO.'S NEW LINE.

THE Plymouth Rubber Co.—A. Sydemann, president and treasurer—of Stoughton, Massachusetts, who have had much experience in the manufacture of rubber heels for the trade, have decided to go into the business of manufacturing these articles under their own name, in view of the marked increase in the demand for rubber heels. They have experimented with compounds for these goods until they have succeeded in finding one especially adapted to the purpose, and at a price which will appeal to the public, while enabling the shoemaker to make a profit on applying them. The two specialties made in this line are called the "O. K." whole heel, which includes the rand, and the "Star," which is a lift heel.

PERSONAL MENTION.

COLONEL SAMUEL P. COLT, on returning to his home at Bristol, Rhode Island, from New York, where he had been elected president of the United States Rubber Co., was welcomed by the employés of the National India Rubber Co., of which he long has been president. The employés, headed by a band, marched in a body from the factory to the train, and escorted Colonel Colt to his home.

=Mr. H. C. Corson, vice president of the B. F. Goodrich Co. (Akron, Ohio), has gone to his summer home, Cape Breton, there to remain until the cold weather.

=Edgar Munson, of Williamsport, Pennsylvania, a director in the Lycoming Rubber Co., of that place, died May 26, of apoplexy, in his eighty-first year. He was president of the Williamsport National Bank, and interested in other important business enterprises.

=Mr. R. W. Evans, treasurer of the Picher Lead Co. (Chicago), sailed from New York for Southampton on June 5, to look after the interests of sublimed lead in England and on the continent for a couple of months. The desirability of using sublimed lead as a compounding material is becoming appreciated in England, France, Germany, and Russia. Mr. Evans was accompanied by Mrs. Evans, and they are expected to return early in August.

=Mr. A. H. Marks, vice president of the Diamond Rubber Co. (Akron, Ohio), has gone to Moosehead Lake, Maine, for a two months' vacation.

=The annual convention of the Southern Industrial Association was held this year at Philadelphia, beginning June 11. It was well attended by representatives of commercial bodies from all parts of the south. Mr. H. N. Towner, the Memphis rubber jobber, and secretary of the Business Men's Club of that city, as usual, took an active interest in the proceedings. Mr. Towner was quoted in the Philadelphia *North American* as saying: "The south has never had such a propitious opportunity for presenting its claims before a northern audience. The result will be the inauguration of a more prosperous régime for the southern states."

=Arlington U. Betts, some time engaged in the rubber business at Toledo, Ohio, became a soldier when the war with Spain began, and in the Philippines won the rank of captain in the Forty-seventh volunteer infantry. He has now been appointed by the Philippines commission as civil governor of the province of Albay, in the southeast of the island of Luzon. The capital of Albay is the city of the same name.

=J. Herbert Foster, of the Rubber Alphabets Co. (Meriden, Connecticut), left that town on June 1 to go to Mexico to investigate the rubber planting situation. Should he make a favorable report, it is understood that several citizens of Meriden are prepared to invest in the business. Mr. Foster's destination was Tlacotalpam, state of Vera Cruz, which is near the Gulf.

FRANCIS H. HOLTON.

PROBABLY no man in the druggists' and stationers' sundries line is better known than the subject of this sketch, Mr. F. H. Holton. He was born as long ago as 1831, in Northfield, Massachusetts, and it is interesting to chronicle just here that he is a cousin of the late Dwight L. Moody, and that both of them were clerks together in Boston when young. Mr. Holton's first rubber experience came when he was quite a boy, when he went to work for his uncle, Mr. Fred. Holton, who was then with the Hayward Rubber Co. His first work was scrubbing the sulphur from rubber shoes, and also "blocking" old-fashioned pure gum shoes. In 1854 he went to New York and obtained employment in a small hard rubber factory owned by a man named Hering. There he met Charles Goodyear and became further interested in the future of India-rubber. A little later he was able to secure a partner, a Professor Parmelee, and together they started a small rubber factory at the corner of Thirty-seventh street and Broadway. This partnership continued until 1860, when Mr. Holton decided to carry on the business alone and moved his works to Adams street, Brooklyn. Eight years later he took a Mr. Gray in as a partner, the firm name being Holton & Gray. Mr. Gray remained a part-



FRANCIS H. HOLTON.

ner of Thirty-seventh street and Broadway. This partnership continued until 1860, when Mr. Holton decided to carry on the business alone and moved his works to Adams street, Brooklyn. Eight years later he took a Mr. Gray in as a partner, the firm name being Holton & Gray. Mr. Gray remained a part-

ner until 1870, then sold his interest to C. B. Dickinson; in 1874 Mr. Holton also sold his interest to Dickinson, the factory being then operated as the Brooklyn Rubber Works. Later Mr. Holton started a factory in Gold street, New York, and built up a fine business in druggists' and stationers' sundries. It was while in this factory that he met the late Dr. B. F. Goodrich, who induced him to leave New York and go to Akron to take charge of the specialty department of The B. F. Goodrich Co. Mr. Holton remained with the Goodrich company for thirteen years, ten of these years being actively employed; the last three he was practically retired, and spent much time in traveling and recreation. Being in excellent health, however, and always interested in the rubber business, he is again at work, at present being the general superintendent of The Rubber Specialty Co., of Akron, Ohio, where he is bringing out a fine line of sundries, together with a number of valuable specialties.

A CARD.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Referring to a publication in your journal of June 1, I find that a concern in New York who call themselves the United Securities Co. are issuing a prospectus to obtain subscriptions to a corporation called the Pacific Rubber Co., which they claim is organized under the laws of Maryland, and are using my name and a report I made on the property. These people represented to me they had a corporation with a capital surplus of \$1,012,000, and offered to purchase my property for \$120,000, cash. I found these people were not responsible, and are not registered as a company, and refused to convey the property to them, or any one connected with them. Their statement that the property is owned by them is false. Their statement that the Pacific Rubber Co. pays 20 per cent. annually is false. I have learned that Henry B. Wall's and Señor Luiz Velez-Arriaga's names have been used without authority. The so-called Pacific Rubber Co. do not own any property obtained from me, and have at the present time no authority from me to use my name or that of Señor Luiz Velez-Arriaga, and I wish to positively disclaim any connection of any kind with the United Securities Co., and Mr. Raymond Surbridge or George Surbrug, who at times sign themselves as secretary and treasurer. By publishing this card, you may save some innocent purchaser of this stock from loss. Truly yours,

CHAS. G. CANO.

New York, June 26, 1901.

RUBBER FROM A MEXICAN PLANTATION.

THE San Francisco *News Letter*, in its issue of June 15, 1901, said:

"La Zacualpa Rubber Plantation Co., on June 1, brought to this city 1050 pounds of clean, crude rubber. This is the first shipment of this year's crop, the largest single shipment received at this port, and the first from a cultivated plantation. The shipment is on exhibition this week at the plantation's general offices, Nos. 703-4 Claus Spreckels building. This exhibit is of interest, as it enables the Zacualpa company to declare itself the only company in the United States which has produced rubber to show to its investors. The Zacualpa company is shipping to London 30,000 pounds of rubber yearly, but the Bowers Rubber Co., which bought up the present shipment, is competing strongly with other local firms for more. This rubber is so pure as to delight the hearts of dealers. The Zacualpa company now has a plantation of 725,000 rubber

trees. Their plantation is situated on the Pacific coast within the department of Soconusco, Mexico. Mr. J. W. Butler is president and managing director, and Mr. E. Noel, secretary. The economical management of the company, together with its superior product, makes it a gilt-edged proposition for investors."

A NEW FIRM IN SUBSTITUTES.

THE Rubber Chemical Co., Limited, an English firm whose advertisement appears on another page of this paper, was first mentioned in our columns in July, 1900, in a record of the formation of the company, to make supplies for the use of rubber manufacturers. They appear to have met with success, and are now prepared to offer their substitutes and other chemicals to the trade on both sides of the ocean.

THE RUBBER TRUST AND ITS WORK.

UNDER the heading "Facts About Trusts" the New York *World* some time ago, in its editorial columns, contained this:

Dun's Review for Jan. 13, 1900, gives the following increase of prices in some of the lines controlled by the trusts: - - - - The rubber trust increased the price of rubber from 94 cents on Jan. 4, 1889 to \$1 45 on Jan. 3, 1900.

This being information that previously had been denied to the rubber trade, the issue of *Dun's Review* quoted was referred to, with this result: In a table of "Prices of Materials," without a word about trusts, India-rubber and a whole lot of other commodities were mentioned, showing fluctuations in the price of crude rubber, between the dates mentioned, from 94 cents to \$1.04½ — not \$1.45, as the *World* read it. All of this is not of startling importance, but the *World's* article has been copied very widely, and probably still is going the rounds, showing what careless leaders of public opinion some newspapers can be. We regard as of much more importance the educational work of the New York *Journal*, whose cartoonist, Mr. F. Opper, has seriously undertaken to show just what the trusts look like. Here is a picture, cut out from one of his characteristic cartoons, showing the appearance of the Rubber Trust. It will be noticed that the monster is tagged with its name, in order that no mistake may be made about its identity.



RUBBER BANDS.—The Washington *Star* quotes "a wholesale dealer in rubber bands in New York" as estimating the annual production of these articles in the United States at about 400,000 gross, or 57,600,000 single bands. At least 60 per cent. of the goods, he said, are made in New York. The annual production will have to be increased 50 per cent. before it is large enough to give each inhabitant one band per year.

MENTION is made in a late publication by the Mexican Mutual Planters' Co. (Chicago) of seventy acres planted in rubber near their estate, the plants four years old from the seed, the owner of which expects to collect 4000 pounds of seed this year. The Mexican Mutual company have contracted to take 2500 pounds, at \$1250.

REVIEW OF THE CRUDE RUBBER MARKET.

THE net result of the changes in the market for the month past is that some grades of Pará's are a trifle lower, while others are unchanged; Centrals are firm, without change for principal grades; and Africans show a reduction throughout most of the list. During the first half of the month buying of Pará sorts were rather active, as if manufacturers had given up hope of lower prices, and were preparing to cover requirements for some time ahead at current figures. Later, however, this activity declined. It is usual with some important factories to take stock about July 1, and just before this date they do not, as a rule, add to their supplies of raw material. It now appears that the total receipts of Pará rubber at the initial markets (including Caucho) were slightly larger for the crop season ending on July 1 than in any former year, although, for the first half of the season, there was a material shortage as compared with last year. While the receipts in the consuming markets have been liberal during the last few months, deliveries have advanced equally in volume, so that the visible supply is even less than twelve months ago. Stocks at Pará are exceptionally small of late, and all cable advices relate to a tendency to advance in prices, which are claimed already to be relatively higher than at New York or Liverpool. The future of prices for Pará grades must be determined, of course, by the production of the season now beginning—a problem rendered exceedingly complex by the unsatisfactory financial conditions in Brazil, concerning which it is difficult to gain intelligible reports, or to predict their effect upon the business of producing rubber.

The latest New York quotations are:

PARÁ.		AFRICAN.	
Islands, fine, new....	84 @85	Tongues.....	46 @47
Islands, fine, old....	85 @86	Sierra Leone.....	58 @59
Upriver, fine, new....	87 @88	Benguella.	52 @53
Upriver, fine, old....	89 @90	Cameroon ball.....	46 @47
Islands, coarse, new....	47 @48	Flake and lumps.....	35 @36
Islands, coarse, old....	@	Accra flake.....	17 @18
Upriver, coarse, new....	61 @62	Accra buttons.....	47 @48
Upriver, coarse, old....	64 @65	Accra strips.....	@
Caucho (Peruvian) sheet	47 @48	Lagos buttons.....	47 @48
Caucho (Peruvian) strip		Lagos strips.....	@
none imported now.		Liberian flake....	@
Caucho (Peruvian) ball	55 @56	Madagascar, pinky....	@
CENTRALS.		Madagascar, black....	@
Esmeralda, sausage....	53 @54	GUTTA-PERCHA.	
Guayaquil, strip.....	50 @51	Fine grade.....	1.75
Nicaragua, scrap....	53 @54	Medium.....	1.45
Mangabeira, sheet....	41 @42	Hard white.....	1.20
EAST INDIAN.		Lower sorts.....	65
Assam.....	61 @62	Balata.....	
Borneo.....	36 @46		

Late Pará cables quote:

Islands, fine	Per Kilo 5\$700	Upriver, fine....	Per Kilo. 6\$550
Islands, coarse	2\$800	Upriver, coarse.....	4\$150

Exchange 11¼ d.

NEW YORK RUBBER PRICES FOR MAY (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine.....	89@93	89@1.02	99@1.02
Upriver, coarse.....	62@65	65@75	82@86½
Islands, fine.....	85@90	87@99	99@1.01½
Islands, coarse.....	51@60	47@61	67@71
Cameté, coarse.....	58@63	56@65	69@72

Prices of rubber scrap have shown a slight advance during the month, the later quotations being in the neighborhood of 7% @ 8¼ cents for shoes in carload lots.

In regard to the financial situation, Albert B. Beers, broker in India-rubber, No. 58 William street, New York, advises us as follows:

"About the same monetary conditions have prevailed during June as for the two months previously, the best rubber paper being taken at 4@4½ per cent., and names not so well known 5@6 per cent. Towards the latter part of the month, however, the demand has been somewhat less as is usually the case at the turn of the half year."

Stocks of Para Rubber (Excluding Caucho).

NEW YORK.						
	Fine and Medium.	Coarse.	Total 1901.	Total 1900.	Total 1899.	
Stocks, April 30.....	906	88 =	994	850	536	
Arrivals, May.....	806	349 =	1155	569	449	
Aggregating.....	1712	437 =	2149	1419	985	
Deliveries, May.....	902	352 =	1254	790	538	
Stocks, May 31.....	810	85 =	895	629	447	
PARÁ.						
	1901.	1900.	1899.	1901.	1900.	1899.
Stocks, April 30.....	170	790	570	1425	1370	885
Arrivals, May.....	1165	1755	1400	600	555	910
Aggregating.....	1335	2545	1970	2025	2425	1795
Deliveries, May.....	1185	1955	1450	675	750	650
Stocks, May 31....	150	590	520	1350	1675	1145
ENGLAND.						
	1901.	1900.	1899.	1901.	1900.	1899.
World's supply, May 31....				3102	3959	2655
Pará receipts, July 1 to May 31.....	22,911	*25,205	*24,285			
Afloat from Pará to United States, May 31....	377	233	84			
Afloat from Pará to Europe, May 31.....	330	832	449			

[*Including caucho.]

London.

JACKSON & TILL, under date of June 1, report:

		1901.	1900.	1899.	
LONDON	{	Pará sorts.....	—	—	
		Borneo.....	168	117	58
		Assam and Rangoon....	40	40	31
		Other sorts.....	528	465	394
Total.....		736	622	484	
LIVERPOOL	{	Pará.....	1355	1674	1133
		Other sorts.....	1411	1328	893
Total, United Kingdom....		3502	3624	2510	
Total, May 1 ..		3397	3952	2129	
Total, April 1....		3522	3104	1942	
Total, March 1.....		2989	1917	1784	
Total, February 1....		3189	1848	1905	
Total, January 1.....		2901	1855	2109	

PRICES PAID DURING MAY.

	1901.	1900.	1899.
Pará fine.	3/8 @3/10½	3/8½@4/2½	4/1¼@4/3
Negroheads, Islands....	@2/2½	@2/4½	2/9 @2/10
Do scrappy.....	2/7½ @2/8	2/8¼@2/11½	3/3 @3/5
Bolivian.....	No sales.	No sales.	4/1¼@4/3

Para.

A CORRESPONDENT, writing of the larger rubber receipts this year than last, says: "Unexpected as this may have appeared

RUBBER SUBSTITUTE.

FOR SALE, the American patent of a new substitute (floating, white), superior to the best on the market, and already appreciated in Europe. Enormous profit for the manufacturer. Address SUBSTITUTE, care of THE INDIA RUBBER WORLD. [38]

POSITION OPEN.

RUBBER SHOES.—Wanted, thoroughly experienced Superintendent to establish and manage Rubber Shoe Factory in Europe. Splendid opening for the right man. Address, A. Z., P. O. Box 375, New York city. [37]

at the commencement of the season, in the face of the financial crisis, collectors have doubled their efforts to bring down their produce, and thus succeeded in raising the crop to its present dimensions. For the coming year there are, however, various important elements at work, such as reduced labor and scarcity of foodstuffs, especially in the upper reaches of the Amazon, where supplies have been insufficient, all of which point to a falling off in next year's receipts."

Gutta-percha.

EXPORTS from Singapore for the first three months of 1901, compared with former years, are stated officially as follows (in pounds):

YEARS.	Great Britain.	Other Europe.	United States.	Total.
1901.....	2,014,733 ¹ / ₃	1,031,066 ² / ₃	161,333 ¹ / ₃	3,207,133 ¹ / ₃
1900.....	2,600,533 ¹ / ₃	662,353 ¹ / ₃	353,600	3,616,666 ² / ₃
1899.....	2,053,733 ¹ / ₃	1,199,733 ¹ / ₃	338,666 ² / ₃	3,592,133 ¹ / ₃

Singapore prices for Gutta-percha of late have been as follows, the first column giving the quotation per picul (133¹/₂ pounds), in silver money, and the second column the equivalent per pound in United States gold:

	Per Picul. (Silver.)	Per Pound. (Gold.)
First quality.....	\$430@570	\$1.57@2.07
Medium.....	270@420	.98@1.53
Lower.....	40@190	.15@.69

Since January 1 prices have declined about \$30 per picul for first quality and medium, and \$10 per picul for lower. On this subject, however, may be quoted a statement made at the half yearly meeting of the India-Rubber, Gutta Percha, and Telegraph Works Co., Limited, in London, on June 4, viz.: "The market prices for the different grades of Gutta-percha were, as a matter of fact, lower than they were recently, but the quality of those grades was below the usual standard, with the net result that buyers got less useful material for the money they paid than was formerly the case."

Lagos Rubber Exports Declining.

THE decline in Lagos exports has been mentioned already in THE INDIA RUBBER WORLD. We now give the official figures obtained from the Lagos custom house:

YEARS.	Pounds.	Value.
In 1895.....	5,060,504	£269,892 13 10
In 1896.....	6,484,653	347,730 2 10
In 1897.....	4,458,327	283,184 17 1 ¹ / ₂
In 1898.....	3,778,266	285,409 14 6
In 1899.....	1,993,525	160,314 16 4
In 1900.....	596,332	48,238 18 13

The Total African Output Increasing.

ANY decline in the production of a given territory seems certain of being more than compensated for returns from other colonies, as indicated by the following figures from some leading sources of African rubber supplies (in pounds):

	1895.	1900.
Gold Coast Colony.....	4,022,385	3,452,440
Lagos ..	5,060,504	596,332
Angola.....	4,652,698	67,436,026
Congo Free State ..	1,168,363	10,784,407
German East Africa ..	503,320	6588,511
Kamerun.....	a880,000	c1,328,536
Togoland.....	a 68,200	c 339,530
Total.....	16,355,470	24,575,782

[a—1894. b—1899. c—1898-99.]

Liverpool.

WILLIAM WRIGHT & CO report [June 1]:

"Fine Pará has met a steady demand, and prices close about the parity of last month. During the early part of the month the market was depressed with a view to frighten the holders of May tenders. This movement succeeded to a certain extent, and 3s. 8d. was touched, but very little sold thereat;

eventually prices recovered to 3s. 10d., then on bear manipulation declined to 3s. 9d., finally closing at 3s. 9³/₄d. The market in Pará and Manaós still continues considerably above the parity of prices ruling here, with an active demand, all available supplies being bought at current rates. This market has been at the mercy of two rival American speculators, whose only object seems to be to spoil each other's game, quite apart from the interests of the trade. This may continue for some little time, but in spite of it all, we still adhere to our previously expressed opinion that the tendency of prices will be upward. A recent article in a New York paper alluded to a 'corner' in rubber, wherein the bear speculator posed as the manufacturers' friend. We would, however, remind manufacturers that both 'bears' and 'bulls' play for their own hand, not from the philanthropic view of helping the manufacturer. Sales on spot total 110 tons. For delivery a considerable quantity sold May June 3s. 9¹/₂d.; June-July 3s. 9¹/₂d. to 3s. 8¹/₄d. to 3s. 9¹/₂d.; July August 3s. 9¹/₂d. to 3s. 8³/₄d. to 3s. 10¹/₄d., and one lot, August-September 3s. 9¹/₂d."

J. J. Fischer & Co., Limited, report Liverpool stocks:

	Feb. 28.	Mar. 31.	Apr. 30.	May 31.
Pará: Fine.....	797 tons	1032 tons	1082 tons	854 tons
Medium.....	107 "	138 "	179 "	149 "
Negroheads.....	132 "	176 "	255 "	241 "
African.....	779 "	862 "	792 "	852 "
Peruvian.....	46 "	203 "	294 "	371 "
Mangabeira.....	430 pkgs	422 pkgs	418 pkgs	378 pkgs
Pernambuco.....	43 "	177 "	162 "	— "
Ceará.....	1817 "	1778 "	1156 "	1105 "
Maniçoba.....	3 "	80 "	122 "	31 "
Assaré.....	451 "	486 "	495 "	494 "
Mollendo.....	25 "	—	6 "	14 "

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The condition of the rubber market for the past week for the most part remained unchanged, though Pará grades showed a slight improvement. In Africans, a tendency was apparent to await the result of the inscriptions at Antwerp. A slight improvement is to be recorded in the market for Centrals. The sales included:

QUOTATIONS IN MARKS PER KILOGRAM.

Bolivian fine, spot....	8.40@8.45	Mexican slabs, sandy..	3.90
Do " forward..	8.50	Kassai red, prime.....	5.50@5.85
Do negroheads...	6.10	Do 2d grade..	4.15
Manaós negroheads...	6.10	Lomé red.....	6.90
Pará fine, hard cure..	8.40	Do white.....	4.20@4.25
Mollendo fine.....	8.10@8.15	Mozambique ball, prime	6.80@6.90
Do negroheads..	5.85	Do " 2d....	5.25@5.30
Mattogrosso mangabeira	5.05	Gambia red.....	5.75
Santos mangabeira....	4.85@4.90	Bissao biscuits, good..	4.35
Ecuador scraps, fine..	5.85	Batanga balls, large...	3.50@3.60
Guatemala slabs... ..	4.00	Congo thimbles, red, 2d	3.25@3.30

Hamburg, June 11, 1901.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At yesterday's public sales prices were very irregular. Good qualities were in good demand and fetched good prices—in several cases a fraction over valuation—whereas different parcels of rather inferior quality were sold at about 1¹/₂ per cent. average under valuation. The offerings amounted to 349 tons and the sales about 191 tons. Since the sales by inscription about 15 tons have found buyers, including 3770 kilos Upper Congo—Lake Leopold II at 5.80 francs per kilo; 5000 kilos Upper Congo—Aruwimi at 7.30 francs; and 3000 kilos Upper Congo—Lopori at 7 francs. The next sale by inscription will take place early in July, when about 300 tons will be offered. The stock this day is 915,081 kilograms, including 309,081 just arrived by the *Philippeville* from the Congo.

Antwerp, June 12, 1901.

C. SCHMID & CO.

ANTWERP RUBBER STATISTICS FOR MAY.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stocks, Apr. 30. Kilos	813,818	821,820	521,303	186,246	145,468
Arrivals, May.....	356,915	445,062	220,822	79,922	115,842
Congo sorts.....	315,382	346,448	184,732	75,107	101,698
Other sorts.....	41,533	98,614	36,090	4,815	14,144
Aggregating...	1,170,733	1,266,882	742,125	266,168	261,310
Sales, May.....	345,291	389,256	238,775	75,905	140,184
Stocks, May 31....	825,442	877,626	503,350	190,263	121,126
Arrivals since Jan. 1	2,543,593	2,720,287	1,430,686	741,523	582,591
Congo sorts.....	2,267,238	2,455,718	1,234,284	643,037	523,047
Other sorts.....	276,355	264,569	196,402	98,486	59,544
Sales since Jan. 1..	2,332,190	2,143,652	1,190,676	645,723	601,094

RUBBER ARRIVALS AT ANTWERP.

MAY 20.—By the steamer *Albertville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo)....kilos	278,000
Bunge & Co. (Société Anversoise).....	3,500
Bunge & Co. (Plantations Lacourt).....	1,500
Comptoir Commercial Congolais.....	6,300
Société A B I R	17,000
Ch. Dethier (Société la Loanjé).....	2,200
Société Coloniale Anversoise (Société La Djuma)....	4,300
Société Coloniale Anversoise (Belge du Haut Congo),	9,000
Société pour Commerce Colonial (Est Kwango).....	4,000
Credit Commercial Congolais (La Lulonga).....	2,000
Credit Commercial Congolais (M. D'Heygere á Gand)	4,800
M. S. Cols. (Société Lubefu).....	10,000
M. S. Cols. (Produits Végétaux du Kassai).....	12,000
	354,600

JUNE 6.—By the steamer *Philippville*, from the Congo:

Bunge & Co. (Domaine privé)..... kilos	190,000
Bunge & Co. (Société Anversoise).....	58,000
Société A B I R	37,000
Société Coloniale Anversoise (Lomami)	10,000
M. S. Cols (Produits Végétaux du Kassai).....	13,000
Crédit Commercial Congolais.....	1,081
	309,081

PARA RUBBER VIA EUROPE.

POUNDS.	
MAY 25.—By the <i>Lucania</i> =Liverpool:	
Reimers & Co. (Coarse).....	17,000
MAY 31.—By the <i>Germanic</i> =Liverpool:	
Reimers & Co. (Coarse).....	17,000
JUNE 8.—By the <i>Campania</i> =Liverpool:	
Robinson & Tallman (Caucho).....	22,500
JUNE 13.—By the <i>Oceanic</i> =Liverpool:	
Otto G. Mayer & Co. (Coarse).....	13,500
Ideal Rubber Co. (Pine).....	2,500
	16,000
JUNE 17.—By the <i>Umbra</i> =Liverpool:	
Robinson & Tallman (Coarse).....	4,500
CENTRALS.	
POUNDS.	
MAY 27.—By the <i>Hevelius</i> =Pernambuco:	
J. H. Rossbach & Bros.....	15,000
MAY 27.—By the <i>Havana</i> =Mexico:	
Harburger & Stack.....	2,500
Graham, Hinckley & Co.....	4,000
H. Marquardt & Co.....	1,500
Jacobs & Allison.....	1,000
E. Steiger & Co.....	100
Thebaud Brothers.....	200
	9,300
MAY 28.—By the <i>City of Washington</i> =Colon:	
Roldan & Van Sickle.....	5,000
G. Amsinck & Co.....	4,500
Ascensio & Cossio.....	2,900
Flint, Eddy & Co.....	2,000
Dumarest & Co.....	1,200
A. Santos & Co.....	1,000
Eggers & Heinlein.....	900
R. G. Barthold.....	800
Ellinger Brothers.....	500
W. Loaliza & Co.....	300
	19,200
MAY 28.—By the <i>El Sud</i> =New Orleans:	
A. T. Morse & Co.....	3,500
Eggers & Heinlein.....	2,500
For London, etc.....	2,000
	8,000
MAY 28.—By the <i>Alhos</i> =Cartagena:	
D. A. De Lima & Co.....	4,000
Flint, Eddy & Co.....	1,500

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

JUNE 1.—By the steamer *Hubert*, from Manãos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	87,400	22,500	61,800	.....=	171,700
Crude Rubber Co.....	72,100	11,400	20,900	31,300=	135,700
Reimers & Co.....	22,800	5,000	30,900	.....=	58,700
Albert T. Morse & Co....	10,700	7,900	19,600	3,700=	41,900
Otto G. Mayer & Co.....	9,800	1,300	5,500	.....=	16,600
William Wright & Co....	.....	.....	.....	21,000=	21,000
Lawrence Johnson & Co..	2,000	.....	200	5,700=	7,900
Total.....	204,800	48,100	138,900	61,700=	453,500

JUNE 10.—By the steamer *Bernard*, from Manãos and Pará:

New York Commercial Co.	106,600	33,000	56,900	3,700=	200,200
Reimers & Co.....	47,300	10,900	29,500	27,800=	115,500
Otto G. Mayer & Co....	35,000	4,700	13,200	400=	53,300
Crude Rubber Co.....	18,500	1,800	8,300	7,900=	36,500
Albert T. Morse & Co....	9,400	4,700	6,400	9,000=	29,500
William Wright & Co....	.....	.....	.....	8,700=	8,700
Herbst Brothers.....	1,100	1,000	700	.....=	2,800
Total.....	217,900	56,100	115,000	57,500=	446,500

JUNE 15.—By the steamer *Fluminense*, from Manãos and Pará:

Reimers & Co.....	23,700	14,100	32,100	22,000=	91,900
New York Commercial Co.	36,600	8,000	20,700	.....=	65,300
Crude Rubber Co.....	27,900	3,400	12,900	500=	44,700
Albert T. Morse & Co....	31,400	6,700	13,400	.....=	51,500
William Wright & Co....	.....	.....	.....	22,500=	22,500
Otto G. Mayer & Co....	4,200	1,300	11,800	.....=	17,300
Czarinkow, McDougal & Co.	4,700	1,200	.....	.....=	5,900
Total... ..	128,500	34,700	90,900	45,000=	299,100

JUNE 22.—By the steamer *Ucayali*, from Pará:

New York Commercial Co.	33,200	2,600	21,700	600=	58,100
Reimers & Co.....	15,300	1,800	22,900	.....=	40,000
Crude Rubber Co.....	11,800	1,400	8,400	.....=	21,600
Otto G. Mayer & Co.....	.....	.....	8,900	.....=	8,900
Albert T. Morse & Co....	700	.....	3,200	.....=	3,900
Total.....	61,000	5,800	65,100	600=	132,500

[NOTE.—The *Maranhense*, from Pará, is due at New York July 4, with 260 tons of rubber.]

CENTRALS—Continued.

Guiterman, Rosenfeld & Co.....	700
Jimenez & Escobar.....	1,200
Bothfeld & Wygant.....	1,000
Kunhardt & Co.....	700
G. Amsinck & Co.....	500
New York Commercial Co.....	400
	10,000
JUNE 3.—By the <i>Esperanza</i> =Mexico:	
H. Marquardt & Co.....	8,500
E. Steiger & Co.....	1,000
Flint, Eddy & Co.....	1,000
Graham, Hinckley & Co.....	1,000
F. Probst & Co.....	500
J. C. Kennedy.....	500
Harburger & Stack.....	300
G. Amsinck & Co.....	500
W. Loaliza & Co.....	200
	13,500
JUNE 4.—By the <i>Alcghany</i> =Greytown:	
A. P. Strout.....	6,500
G. Amsinck & Co.....	4,000
A. D. Straus & Co.....	2,500
L. Johnson & Co.....	1,500
D. A. De Lima & Co.....	5,000
Kunhardt & Co.....	3,500
Silva Bussenius & Co.....	1,300
Ricardo Alence.....	400
	24,700
JUNE 10.—By the <i>Louisiana</i> =New Orleans:	
A. T. Morse & Co.....	19,500
A. N. Rotholz.....	2,000
T. N. Morgan.....	1,200
For Europe.....	1,000
	23,700
JUNE 10.—By the <i>Atlat</i> =Port Limon:	
Guiterman, Rosenfeld & Co.....	1,000
Jimenez & Escobar.....	800
S. Samper & Co.....	700
Kunhardt & Co.....	1,000
New York Commercial Co.....	500
L. Johnson & Co.....	500
Punderford & Co.....	300
G. Amsinck & Co.....	200
	5,000
JUNE 11.—By the <i>Allianca</i> =Colon:	
Isaac Brandon & Bros.....	3,200
Crude Rubber Co.....	2,100
A. M. Capen Sons.....	3,400
Dumarest & Co.....	1,800
C. Wessells & Co.....	900
Hirzel, Feltman & Co.....	600

CENTRALS—Continued.

G. Amsinck & Co.....	600
E. Heaney & Co.....	600
	13,200
JUNE 13.—By the <i>Prins Willem V</i> =Trinidad:	
Thebaud Bros. (Angostura Fine)....	4,500
Thebaud Bros. (Angostura Coarse).....	500
	5,000
JUNE 11.—By the <i>Ithaka</i> =Mexico:	
H. Marquardt & Co.....	2,500
E. N. Tibbals.....	700
Graham, Hinckley & Co.....	500
Flint, Eddy & Co.....	500
L. N. Chemedlin & Co.....	200
	4,400
JUNE 12.—By the <i>Pennsylvania R.R.</i> =Mexico:	
G. Amsinck & Co.....	2,500
L. N. Chemedlin & Co.....	2,000
Messrs. Hesslein & Co.....	1,000
J. B. Sageman.....	500
	6,000
JUNE 13.—By the <i>Yucatan</i> =Mexico:	
Thebaud Brothers.....	7,000
E. Steiger & Co.....	500
A. S. Lascellas & Co.....	1,000
Harburger & Stack.....	500
D. N. Carrington.....	1,000
	10,000
JUNE 15.—By the <i>Seguranca</i> =Mexico:	
Thebaud Brothers.....	1,500
E. Steiger & Co.....	500
H. W. Peabody & Co.....	500
F. Probst & Co.....	300
J. W. Wilson & Co.....	700
	3,500
JUNE 17.—By the <i>El Sud</i> =New Orleans:	
L. N. Chemedlin & Co.....	1,600
Joseph Hecht & Sons.....	1,000
For London.....	2,400
	5,000
JUNE 18.—By the <i>Alene</i> =Greytown:	
A. P. Strout.....	6,500
A. D. Straus & Co.....	1,000
Jimenez & Escobar.....	2,700
Guiterman, Rosenfeld & Co.....	2,000
G. Amsinck & Co.....	200
	12,400
JUNE 18.—By the <i>Finance</i> =Colon:	
Flint, Eddy & Co.....	3,500
G. Amsinck & Co.....	2,000
Gillespie Bros. & Co.....	1,800
A. P. Strout.....	1,500
Andreas & Co.....	1,000

CENTRALS—Continued.

Lawrence Johnson & Co.....	800	
Roldan & Van Sickle.....	900	11,500
JUNE 21.—By the <i>El Cid</i> =New Orleans:		
A. T. Morse & Co.....	7,000	
A. N. Rotholz.....	1,000	
Rubber, Celluloid & Harness Co.....	3,500	11,500
JUNE 21.—By the <i>Pennsylvania</i> =Hamburg:		
Reimers & Co.....	6,500	
Livesey & Co.....	3,000	9,500
JUNE 22.—By the <i>Havana</i> =Mexico:		
E. Steiger & Co.....	2,000	
H. Marquardt & Co.....	2,000	
Frank Brothers.....	1,000	
P. Harmony Nephews & Co.....	1,200	
Fred. Probst & Co.....	800	7,000

AFRICANS.

POUNDS.

MAY 25.—By the <i>Lucania</i> =Liverpool:		
Ideal Rubber Co.....	11,000	
Livesey & Co.....	3,000	14,000
MAY 27.—By the <i>Dona Maria</i> =Lisbon:		
Otto G. Mayer & Co.....		22,500
MAY 27.—By the <i>Zealand</i> =Antwerp:		
A. T. Morse & Co.....	16,000	
Otto G. Mayer & Co.....	4,500	
Reimers & Co.....	4,500	25,000
MAY 29.—By the <i>Bohemian</i> =Liverpool:		
George A. Alden & Co.....		22,500
MAY 31.—By the <i>Germanic</i> =Liverpool:		
Livesey & Co.....		13,000
MAY 31.—By the <i>Patricia</i> =Hamburg:		
Reimers & Co.....	17,000	
A. T. Morse & Co.....	12,000	
Robinson & Tallman.....	3,500	32,500

JUNE 3.—By the <i>Etruria</i> =Liverpool:		
George A. Alden & Co.....	34,000	
Crude Rubber Co.....	33,600	
Robinson & Tallman.....	43,000	
Livesey & Co.....	17,000	
Reimers & Co.....	5,500	133,000
JUNE 3.—By the <i>St. Louis</i> =Southampton:		
Reimers & Co.....		4,500
JUNE 3.—By the <i>Ithal</i> =Liverpool:		
George A. Alden & Co.....	12,000	
Crude Rubber Co.....	13,000	25,000
JUNE 7.—By the <i>St. Cuthbert</i> =Antwerp:		
Livesey & Co.....		13,500
JUNE 30.—By the <i>Friesland</i> =Antwerp:		
George A. Alden & Co.....	195,000	
Crude Rubber Co.....	187,000	
Joseph Cautor.....	5,500	
Otto G. Mayer & Co.....	2,500	390,000
JUNE 8.—By the <i>Campagna</i> =Liverpool:		
Reimers & Co.....	43,000	
Livesey & Co.....	16,000	59,000
JUNE 11.—By the <i>Southwark</i> =Antwerp:		
Reimers & Co.....		4,500

AFRICANS—Continued.

Otto G. Mayer & Co.....	2,500	7,000
JUNE 11.—By the <i>Georgia</i> =Liverpool:		
Crude Rubber Co.....		22,500
JUNE 17.—By the <i>Umbria</i> =Liverpool:		
Robinson & Tallman.....	20,000	
Reimers & Co.....	15,000	
Livesey & Co.....	10,000	
George A. Alden & Co.....	9,000	
Crude Rubber Co.....	8,500	62,500
JUNE 20.—By the <i>Teutonic</i> =Liverpool:		
George A. Alden & Co.....	42,000	
A. T. Morse & Co.....	7,500	49,500
JUNE 21.—By the <i>Pennsylvania</i> =Hamburg:		
George A. Alden & Co.....	13,500	
Crude Rubber Co.....	13,500	
A. T. Morse & Co.....	11,500	
Reimers & Co.....	11,500	
Livesey & Co.....	6,500	
William Wright & Co.....	11,500	68,000

EAST INDIAN.

POUNDS.

JUNE 3.—By the <i>Alberga</i> =Singapore:		
Reimers & Co.....	26,000	
D. P. Cruikshank.....	11,000	37,000
JUNE 10.—By the <i>Minneapolis</i> =London:		
George A. Alden & Co.....		6,500
JUNE 11.—By the <i>Trave</i> =Genoa:		
R. Brans & Co.....		11,500
JUNE 20.—By the <i>Mesaba</i> =London:		
J. W. Greene & Co.....		16,000
JUNE 21.—By the <i>Gymeric</i> =Singapore:		
R. Brans & Co.....	14,000	
George A. Alden & Co.....	11,000	25,000

PONTIANAK.

JUNE 3.—By the <i>Alberga</i> =Singapore:		
Reimers & Co.....	675,000	
R. Brans & Co.....	480,000	
William Wright & Co.....	200,000	
Livesey & Co.....	160,000	1,515,000
JUNE 10.—By the <i>Manitou</i> =London:		
Kramrisch & Co.....	45,000	
George A. Alden & Co.....	2,000	47,000
JUNE 21.—By the <i>Gymeric</i> =Singapore:		
R. Brans & Co.....		600,000

GUTTA-PERCHA AND BALATA.

MAY 31.—By the <i>Patricia</i> =Hamburg:		
R. Soltan & Co.....		6,000
JUNE 17.—By the <i>Bovic</i> =Liverpool:		
R. Crooks & Co.....		4,100
JUNE 20.—By the <i>Mesaba</i> =London:		
J. W. Greene & Co.....		2,600
BALATA.		
JUNE 10.—By the <i>Manitou</i> =London:		
Earle Brothers.....		4,500

GUTTA-PERCHA—Continued.

JUNE 15.—By the <i>St. Paul</i> =Southampton:		
George A. Alden & Co.....		2,500

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—MAY.

Imports:	POUNDS.	VALUR.
India-rubber.....	5,107,198	\$2,811,507
Gutta-percha.....	6,810	4,961
Gutta-jelatong (Pontianak)....		
Total.....	5,114,008	\$2,816,468
Exports:		
India-rubber.....	131,459	\$107,279
Reclaimed rubber.....	138,694	17,401
Rubber Scrap Imported.....	717,469	\$46,496

BOSTON ARRIVALS.

POUNDS.

MAY 2.—By Metropolitan Steamship Co.=New York:		
Africans arrived New York April 25 by the <i>Friesland</i> =Antwerp.....		41,034
MAY 2.—By the <i>Saxonia</i> =Liverpool:		
Livesey & Co.—African.....		2,288
MAY 3.—By the <i>Michigan</i> =Liverpool:		
Reimers & Co.—Coarse Para.....		31,799
MAY 5.—By the <i>Callisto</i> =Hamburg:		
Reimers & Co.—African.....		23,586
MAY 7.—By the <i>Castrian</i> =Liverpool:		
Reimers & Co.—African.....		6,644
MAY 14.—By Metropolitan Steamship Co.=New York:		
Africans arrived New York May 8 by the <i>Southwark</i> =Antwerp.....		148,735
MAY 16.—By the <i>Sagamore</i> =Liverpool:		
Reimers & Co.—Fine Para.....	22,000	
Reimers & Co.—African.....	15,521	37,521
MAY 17.—By the <i>Elba</i> =Hamburg:		
George A. Alden & Co.—African.....		10,577
Total.....		302,176

[Value, \$170,163]

[NOTE—The above arrivals are entered at the Custom House. There are advices of an additional arrival, viz: By the *Ivernia*=Liverpool, May 23—Livesey & Co., Africans, 2,500.]

GUTTA-PERCHA.

MAY 2.—By the <i>Cambrian</i> =London:		
George A. Alden & Co.....		2,300
MAY 8.—By the <i>Prutian</i> =Glasgow:		
		1,200
MAY 12.—By the <i>Virginian</i> =London:		
		13,039
Total.....		16,554

MAY EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Comk, Prusse & Co.....	73,715	18,735	50,827	140	143,417	65,850	11,730	12,100	2,100	94,780	238,197
Adelbert H. Alden.....	78,054	14,666	62,536	--	155,256	6,840	720	2,500	--	10,120	165,376
Frank da Costa & Co.....	18,620	3,407	27,631	38	49,696	15,924	1,950	23,366	2,100	43,340	93,036
The Sears Para Rubber Co.....	30,658	3,890	16,102	976	51,536	--	--	--	--	--	51,536
Rudolf Zietz.....	907	320	3,200	--	4,427	25,628	3,074	10,132	2,784	41,618	46,045
Denis Cronan & Co.....	--	--	--	--	--	15,000	2,040	2,880	--	19,920	19,920
Kanthack & Co.....	--	--	--	--	--	3,647	673	1,135	--	5,455	5,455
Pires Teixeira & Co.....	730	--	215	--	945	--	--	--	--	--	945
Sundry small shippers.....	--	--	--	--	--	1,530	--	1,620	--	3,150	3,150
Direct from Itacoatiara.....	--	--	--	--	--	6,240	--	2,060	119	8,419	8,419
Direct from Iquitos.....	--	--	--	--	--	1,345	--	21,417	49,663	72,425	72,425
Direct from Manaos.....	170,861	52,108	91,943	139,645	454,557	123,936	39,944	101,354	534,340	798,674	1,253,231
Total for May.....	373,545	93,126	252,354	140,799	859,834	268,940	59,231	178,624	591,106	1,097,901	1,957,735
Total for April.....	1,092,564	203,378	405,560	229,474	1,931,476	359,209	71,378	154,012	323,610	908,209	2,839,685
Total for March.....	1,521,789	380,985	568,401	332,401	2,803,756	955,590	224,615	375,552	576,700	2,132,457	4,936,213
Total for February.....	1,015,987	278,004	549,566	251,815	2,095,372	789,333	198,350	306,855	154,519	1,449,062	3,544,434
Total for January.....	577,296	119,433	420,279	53,772	1,070,780	656,333	116,246	252,554	120,064	1,145,197	2,315,977



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INSPECTORS IN RUBBER MILLS.

NOT long ago a rubber factory was offered a contract for army ponchos, on condition that a government inspector be allowed in the mill room to see that a certain percentage of Pará rubber was put into every batch. The idea was not favorably entertained by the manufacturer, but it is evident that the present paternal government (not that the writer is an anarchist) is on the right track. But the system of inspection should be more complete than that suggested. It should cover the refining, calendaring, and curing of the goods. Nor would it be complete unless it embraced a critical knowledge of sulphur, and a certain expertness in dry heat varnishes and dull finish washes. If these and a few more of the vitals of surface goods manufacture were shouldered by government inspectors, much of the anxiety that clouds the life of the superintendent would be removed.

THE FIRST YEAR'S PROFITS.

IN starting a new rubber factory, or rather in summing up the results of the first year's business of a new factory, it often happens that larger profits appear than some of the veterans in the trade can show, and the owners are encouraged to believe that it is due altogether to newer methods, up to date machinery, or individual acumen, and it may be that all of these exist and that the good showing will continue. The novice should remember, however, that he has started without a dead stock of any kind, in either manufactured or unmanufactured goods—a condition that is unlikely to continue after even a twelve-month—and on account of which a certain percentage should be deducted from the first year's profits in predicting a future yearly average. To this, also, the manufacturer should add a certain percentage for deterioration of machinery, of buildings, and of tools. With these factors intelligently considered at the starting of every new business, there would be fewer disappointments in lines that promise well at first, and there would be less price cutting on the part of new manufacturers, who are honestly convinced at first that they can make and market goods profitably at prices much below those quoted by long established houses.

AN AGE OF EXPOSITIONS.

IS the "World's Fair"—the "International Exposition," industrial, artistic, amusing—to continue and increase, or is it on the wane? This is a question that many producers would like to have satisfactorily answered. Did the Chicago exposition of 1893 or the Paris exposition of 1900 register the high water mark of this form of instructive advertising, or will the future show still greater triumphs—perhaps in New York, London, Mexico, and other cities?

A careful review of conditions at the Pan American fair at Buffalo should in a measure give answer. While it is too early yet to do more than generalize, there is no

doubt but the fair is a success. Architecturally it is beautiful. Its industrial exhibits are satisfactory, and marked by a tendency toward displays that appeal because of their worth rather than their size. Taking the rubber trade exhibits for example, while they in no sense reflect the importance of the trade as a whole, they are certainly excellent, and the industry need not be at all ashamed of them. It is also noticeable that the visiting public linger long in their vicinity, attracted no doubt by the mystery that to the world at large still surrounds "gum elastic." The Midway, the art galleries, the magnificent government exhibit, all claim their own, and in spite of many adverse conditions, visitors are coming from far and near in constantly increasing numbers.

The fact is patent that the American people have money to spend in traveling, plenty of it, and American railroads stand ready to carry any and all where they will. Besides this, as sight seers we enjoy the general hasty smattering of knowledge, architectural, industrial, artistic that an exposition affords. It is like the big Sunday newspaper—a hodge podge of good, bad, and indifferent. Sober sense condemns but subscribes. It looks as if the fair was a permanent institution.

THE CONQUEST OF THE TROPICS.

SO far the triumphs of modern civilization the world over have been chiefly in the temperate zones. So universally has this been true, that there has grown up a feeling that industrial triumphs in tropical countries are impossible. For this state of things the intense heat, disease, and more particularly the languid indifference toward all progress said to possess both native and alien is held to be responsible. As a matter of fact, however, there is very little either of reason or common sense in this view. That the warmer climes can produce sturdy, dominant races is a matter of history. That the tropics have been subdued by races that were at least semi-civilized is graphically attested by the ruins of great cities in Central America. The real reason that the wonderful products of the torrid zone have not been more fully exploited until now lies in the fact that the development of the temperate zones used all of the energy of the pioneer races of modern times.

The scene is changing, however, and so rapidly that it is almost impossible to keep pace with it. All over the world the products of the hot countries are being more and more exploited, and where they are agricultural, are rapidly being brought under cultivation. In this work, American knowledge and capital takes the lead. The amount of money, for example, that is being put into plantations and ranches, not to mention mines, in Mexico and Central America runs into hundreds of millions. All through those wonderfully fertile lands are plantations owned and operated by Americans with American agricultural machinery, fast displacing the antiquated methods of the natives. In this progress, as indeed in all lines of industrial progress, India-rubber has its part. The day of scoffing at the idea of cultivated rubber has gone by.

That there will be disappointments and failures in fraudulent and badly managed rubber plantation schemes no one doubts, but that the cultivated rubber tree ten years hence will be a productive and exceedingly profitable part of many large plantations is an undisputed fact.

This condition of things should be viewed with a great deal of satisfaction by the ambitious Anglo-Saxon. The most productive parts of the world, instead of growing up in impenetrable jungles, the home of reptiles, and the breeding place of poisonous insects, should lend their fertility to the production of the many necessities and luxuries that go to make civilized life tolerable. The wonderful riches stored in the soil of the tropics are just as much the heritage of the agriculturist as are the western lands in the United States, that, under the plow of the pioneer, bring forth such wonderful crops of wheat, and corn. These lands are now more accessible than were the farm lands of our west twenty years ago, and infinitely more productive, and the same pioneer blood that developed the great farms of the west and northwest is today helping to clear and plant the tropical fields of the extreme south.

Of course, one would not elect to start a plantation in the steaming swamps of Brazil, where fevers are every white man's lot, but there are tropical areas where fevers are rare, where malaria is almost unknown, and where the average of physical comfort is not far below that of new settlements in the temperate zone. Within the life of another generation it is probable, so swiftly do profitable ventures move, that American capital will control Mexico, and that the pioneer planters there will have done much towards solving the problem of the cultivation of the rich areas in Cuba and the Philippines, in which problem that of growing India-rubber will take no inconsequent part.

IN CONNECTION WITH RUBBER IN BOLIVIA, two items of interest are chronicled in this issue of THE INDIA RUBBER WORLD—the starting of a scientific expedition to study the rubber yielding species in that country, and the reorganization of the largest company yet formed to exploit the natural rubber resources there. It will be observed that both the botanists now on the way, and the rubber importing house interested in the company referred to, are American. It may be recalled here that the navigation of the river Beni, in the Bolivian rubber center, dates from the explorations made by Dr. Heath, an American. American enterprise is largely interested in mining in Bolivia, the development of which will open the way for further undertakings in that country by American capital. It long has been apparent that Bolivia possesses rich rubber resources, and it would seem to be a natural field for development for capital from the United States, since this country ranks first in the consumption of rubber. By the way, the New York Botanic Garden, which is interested in the scientific expedition sent lately to Bolivia, seems destined to become one of the great botanical institutions of the world, and the existing stock of knowledge in relation to rubber species, not only in Bolivia but elsewhere, doubtless will become enhanced to an important extent by its work. One other fact in relation to the interests of the United States in rubber is recorded in our pages this month—the despatching of an expedition from Washington to study the rubber resources of the Amazon basin.

SOME SUCCESSFUL MEN IN THE RUBBER TRADE.

II.—THE LATE JOHN H. CHEEVER.

JOHN HAVEN CHEEVER, president of the New York Belting and Packing Co., Limited, and of the Mechanical Rubber Co., died July 9, at his home at "Wave Crest," Far Rockaway, Long Island, in his seventy-seventh year, after having been continuously connected with the rubber industry, in an important way, longer than any one else in this country. Mr. Cheever was born at Portsmouth, New Hampshire, August 1, 1824. The Cheever family had lived in America for several generations, his father and his grandfather having been Harvard graduates and men of influence in the community in which they lived. The subject of this sketch seems early to have set his mind upon a business career. He likewise was of a self-reliant disposition, as indicated by his having invested his patrimony of \$18,000 or \$20,000 in the rubber business at a time when its prospects were not particularly bright, and against the advice of all his friends. But he had met Charles Goodyear, and had become a firm believer in the possibilities of rubber.

Mr. Cheever's first interest in the rubber industry was in connection with the works at Roxbury, Massachusetts, which may properly be described as the first rubber factory in the United States. Connected with this factory, at one time or another, were most of those early experimenters who gave a definite impress to the establishment of the rubber manufacture on a practical basis, and such was its preëminence that it was charged that many rubber goods sold at one time as "Roxbury" goods were

not so in fact, but counterfeits. When the Roxbury company got into straits, at an early date, the managers laid their troubles to the ill repute into which their name had been brought by the wide sale of these inferior goods, for which they were responsible. But that was before Goodyear's discovery, and the Roxbury company proved its merit by being the only one of the numerous early rubber concerns that survived. In due time it had a license from Goodyear, and was reincorporated as the Goodyear Manufacturing Co., which name was changed, by act of the Legislature, March 17, 1847, to the Boston Belting Co. They made rubber belting under a license from Goodyear to Henry Edwards, and by him assigned to the company.

It is the impression of Mr. Cheever's family that his connection with the business dated from his eighteenth year—1842. The name of John H. Cheever first appears in the mass of documentary history of those days as one of the purchasers, from Charles Goodyear, for \$2000 cash, of a license to make elastic bands, under date of April 17, 1846. This license was granted to Henry Edwards, John H. Cheever, Charles McBurney, and John Haskins. Haskins had been one of the

incorporators of the original Roxbury India Rubber Co., and still retained an interest there. McBurney continued in an important relation with the company for twenty years or more, after which he assisted in founding what has since become an important mechanical rubber company. About the time the Boston Belting Co. came into existence under its present name, a selling agency was established in Boston under the firm name of Tappan, McBurney & Cheever, the senior member being John G. Tappan, who will be mentioned again further on. In time the firm were the principal proprietors of the factory. The firm style was changed after the retirement of Mr.

Cheever, to Tappan, McBurney & Co., and long continued.

In April, 1856, Mr. Cheever left Roxbury to become treasurer of a new corporation, the New York Belting and Packing Co., formed under Connecticut laws June 14, 1856, by William Judson, John H. Cheever, and Alexander W. Thompson. The capital stock was \$200,000, stated in the charter to be "actually paid in," though a portion of this undoubtedly was in the shape of patent rights. The first president of the new company was William Judson, so long identified with Charles Goodyear as patent attorney and otherwise. While in Boston it had been part of Mr. Cheever's business to look after the patent litigation, from which no important rubber company in those days was exempt, and he thus became acquainted with, and secured the services of, Henry F. Durant, who became in time the most distinguished lawyer

in Boston. Mr. Durant was seldom on the losing side of any case, and his successes won the admiration of Mr. Cheever, while the merits of the rubber business appealed to the lawyer. Hence, he soon became interested in the Sandy Hook business, Judson owning one half and Cheever and Durant sharing the other half. Soon afterward the Judson interest was bought by the other two, in equal shares, Mr. Durant becoming president of the company. The first factory was one formerly used by the Goodyears at Sandy Hook (Newtown), Connecticut. The office and store in New York were at No. 6 Dey street. The factory superintendent was Dennis C. Gately, who had been employed previously at Roxbury.

William Judson, prior to the organization of the new company, had been interested in the Goodyear Packing Co., with offices at No. 98 Broadway, New York, the business of which was merged into the New York Belting and Packing Co. In 1857 the Sandy Hook factory was burned, and while it was being rebuilt part of the plant of the New England Car Spring Co., in New York, was used. The Dey street office was soon given up for larger quarters at Nos. 37-38 Park row, which



JOHN HAVEN CHEEVER.

were burned in 1882, after which the company moved to Nos. 13-15 Park row, and thence, in recent years, to the present location in Park place.

The business of the new company was successful from the beginning. Its output was only a few thousand dollars worth of goods per month at first, but that was not a day of large businesses. But in 1892, when testifying in a patent lawsuit, Mr. Cheever stated that the annual turnover had attained to \$2,300,000. In 1863 an additional factory at Sandy Hook was purchased from Conrad Poppenhusen, who had made hard rubber there before going to College Point. The two factories were known thereafter as "No. 1" and "No. 2." In 1887 factory No. 2 was burned down, and replaced by a larger building. As early as 1869 larger facilities became necessary, and factory "No. 3" was erected at Passaic, New Jersey, it being desirable to have a location nearer New York, and here the business began in time to be concentrated, until, a few months ago, the Sandy Hook works were closed. The company was reorganized in 1891 as the New York Belting and Packing Co., Limited, with £426,000 capital; it was included in the Mechanical Rubber Co., incorporated in 1892, and in the amalgamation of the latter with the Rubber Goods Manufacturing Co., in 1899.

The New York Belting and Packing Co. started, of course, with the advantage of a license under the Goodyear patents. They were fortunate thereafter, for a number of years, in controlling various important patents, on both processes and appliances for manufacture, particularly in respect to rubber belting and hose, which assisted them in commanding a very important position in the mechanical rubber industry. Mr. Cheever made himself master of his business, besides which he drew to his aid a high order of talent in all the various departments of the business. In 1858 Mr. Cheever acquired an interest also in the Beverly Rubber Co., established two years earlier at Beverly, Massachusetts, and which became an important factor in the rubber clothing trade. In 1862, when the Beverly factory was burned, a certain part of its business was transferred to the New York Belting and Packing Co. The Beverly factory, by arrangement with the Union India Rubber Co., had a share in the profitable contracts for army blankets, and here was first developed, in a practical way, the devulcanization of rubber. Upon the death of Mr. Durant, in 1881, his widow filled the office of president for several years, and upon the reorganization, as a limited company, it was taken by Mr. Cheever, who had continued to act as treasurer and the business head of the company from the beginning.

Owing to the joint interest of the two concerns in important patents, Messrs. Cheever and Durant, in the early days of the New York Belting and Packing Co., became stockholders in the Boston Belting Co., of which Mr. Durant was elected president, and their holdings increased until, in 1878, each held 800 shares in the Boston company. The largest stockholder in that company was John G. Tappan, who was its treasurer and trusted business head, and was left to control its management entirely. In 1878 his outside business affairs crashed, involving the Boston Belting Co. for more than the amount of its capital and surplus. The shares had been quoted, however, at largely above par, and the company was at once soundly reorganized, but Messrs. Cheever and Durant surrendered whatever equity they may have had in the business.

Mr. Cheever was descended from Ezekiel Cheever, who helped found the town of New Haven, and who for thirty years was master of the Boston Latin School, publishing meanwhile many books. He had studied at Cambridge University, in England. About the same time (1637) some of his relatives by the name of Cheever settled in or near Boston, generally

succeeding in business, so that the family became not only large but influential. Mr. Cheever's descent is shown in the following table:

1. EZEKIEL CHEEVER. Born, London, England, Jan. 25, 1614; settled New Haven, 1637; lived later at Ipswich and Charleston, Mass.; settled Boston, 1670; second marriage, to Elizabeth Lathrop; died, Boston, Aug. 21, 1708.
2. Rev. THOMAS CHEEVER, A. M. Born, Ipswich, Aug. 23, 1658; graduated at Harvard, 1677; preached at Malden and later at Rumney Marsh (now Chelsea); married Sarah Bill; died Chelsea, Nov. 27, 1749.
3. THOMAS CHEEVER. Born, Rumney Marsh, about 1685; manufacturer; married Mary Baker; died, Lynn, Nov. 8, 1753.
4. ABNER CHEEVER. Born, Lynn, Jan. 24, 1725 [or '26]; married Elizabeth Newhall; died, Lynn, April 22, 1796.
5. ABIJAH CHEEVER, A. M., M. D. Born, Lynn, May 23, 1760; graduated at Harvard, 1779; surgeon in the army and navy; married Elizabeth Scott; died, Saugus, April 21, 1843.
6. CHARLES AUGUSTUS CHEEVER, A. M., M. D. Born, Boston, Dec. 1, 1793; graduated at Harvard 1813; medical degree, 1816; lived more than 30 years at Portsmouth, N. H., where he married Ann Mary Haven; died, Saugus, Sept. 22, 1852.
7. JOHN HAVEN CHEEVER.

It may be noted that the average age attained by the seven persons named was 80 years and 6 months. Mr. Cheever is survived by a half-brother, David Williams Cheever, M. D., LL. D., a graduate of Harvard, and since 1861 a member of its medical faculty, being now professor emeritus of surgery. Dr. Cheever at one time was also at the head of the Boston Hospital and has been president of the American Society of Surgeons.

For twenty years Mr. Cheever lived at No. 80 Fifth avenue, New York city. He then removed to Far Rockaway, being one of the pioneers in making that a country home place for well to do New York business men, and he lived there for nearly forty years. He was very much devoted to his home. For the last six years, Mr. Cheever was very much of an invalid, suffering from a sort of gout, which practically crippled him, keeping him for the most of the time confined to the house. He was very patient through all of this suffering, however, and kept up an active interest in outside affairs to the last. Indeed, at the time of his death, he was sitting up in a chair and Mrs. Cheever was reading to him from a newspaper. They were to celebrate their golden wedding this year. His wife was Ann Elizabeth, daughter of John and Mary (Plumer) Dow, of Epping, New Hampshire. Four children survive: John Dow Cheever, with the banking house of H. W. Poor & Co. (New York); Henry Durant Cheever, one of the managers of the Okonite Co.; Mrs. John E. Cowdin, and Miss Elizabeth S. Cheever. Mr. Cheever was a member of the Union Club, the Century Association, the National Academy of Design, the Metropolitan Museum of Art, and the New England Society of New York. The interment occurred June 12, at Hewlett's, near Far Rockaway.

Mr. Cheever's personality was a most interesting one. Physically he was a powerful man, short, rather thick set, looking not unlike an Englishman. While in the full possession of health he was an enthusiastic sportsman, spending many weeks each year in the wilds of Maine, fishing and shooting. He was also very fond of horses and horseback riding. In his business relations Mr. Cheever impressed people as being a man of force and energy and exceedingly progressive. With it all he was of a marvelously kindly disposition, and being absolutely honest himself, he believed that the whole world was equally honest. Out of his rubber business he made a large fortune, but when

THE RUBBER PLANTING SITUATION IN MEXICO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Regarding rubber culture in the Soconusco district, state of Chiapas, Mexico, I desire to say in the first place, that on the low lands of said county, and down near the Pacific coast, the rubber tree grows wild in profusion and in many instances is found of enormous sizes. On the "San Carlos" tract, for example, belonging to Mr. Alejandro Cordova, of Tuxtla-Chico, Soconusco, there are rubber trees which cannot be less than fifty years old, having a diameter of seven feet, and the space shaded by the foliage a diameter of at least seventy to seventy-five feet. Similar trees can be seen at the "Jesus Maria" tract belonging to Mr. Richard Bado, of Tapachula; on the different properties of Mr. Porfirio Aparicio, of Tuxtla-Chico, towards the Guatemala frontier; and on "Los Cerros" and "Santa Isabel" tracts belonging to the Escobar family, also of Tapachula.

Now, as to the cultivation of the rubber tree in the same district, enough has been written lately to demonstrate that its returns provide plenty of margin for contingencies. I hereby give you some data in reference to this industry, the truth of which can be also easily verified.

In 1871 Romolo Palacios planted over 100,000 rubber trees in connection with cacao on the tracts "San Antonio" and "Pumpuapa" of his property, about five miles distant from Tapachula, and near the seaport of San Benito, in the district of Soconusco. These trees have been gradually reduced in number by reason of forest fires until probably only about 6000 remain. The owner of the property, dying about ten years ago, left it to his son Teofilo Palacios, who now manages the estate. The rubber trees are tapped every year, and some of the product has been shipped at various times to New York, to Marquardt & Co., and W. Loaiza & Co.,* and to London. I have never seen the trees tapped, but from what I have seen in the district I should say that trees of the age mentioned should yield readily at a single tapping 10 pounds of milk, which will afford 4 pounds of dry rubber per tree.

In 1872 the late General Sebastian Escobar, a well-known agriculturist, thoroughly acquainted with the nature of the Soconusco lands, and enthusiastic in the matter of agricultural progress, planted over 1,000,000 rubber trees on his properties called "Los Cerros" and "Santa Isabel." These trees were also planted in connection with cacao, at a time when the Mexican government was seeking to encourage the planting of rubber by the payment of a premium or bonus. It was also at the time that an interest in rubber planting was being stimulated by Mr. Matias Romero. This plantation has also been frequently ravaged by fires, particularly such as result from the annual burning of the old grass to make the new growth more available for the cattle. Grazing, by the way, is the chief interest on this estate, and little attention really has been given to rubber. There are now perhaps 75,000 of the original trees standing, and from these more or less rubber is taken every year which reaches the agents of the Escobar estate. A greater amount, however, is probably stolen by neighboring Indians. The rubber from this estate is sold in the Tapachula market, lots having been taken at different times by William Henkel & Co. for shipment to Hamburg, O. H. Harrison for

London, and Louis Tomelen & Co. and others for Hamburg and New York. The "Santa Isabel" property is about 6½ miles from Tapachula and the "Los Cerros" property thirty-six miles distant, near Guatemala.

In 1873 the late Mexican ambassador to the United States, Mr. Matias Romero, started, on the "Suchiate" tract of his property a plantation of over 100,000 rubber trees, and, as for political reasons he was compelled to abandon the property, when the trees planted grew large enough to yield rubber, they were tapped by the natives and nearly destroyed, but still there are many of them growing and yielding rubber to show what a cultivated tree will produce. This tract consists of 14,868 acres, about three miles from the port of Ocos beyond the Guatemalan border, and sixty miles from Tapachula. It is owned by the wife and sons of Mr. Romero, whose agent is Ricardo de M. Campos, collector of customs at Tapachula. Perhaps 2000 or 3000 pounds of rubber are sold each year through Henry Pincon, of Tapachula, who represents some English firm in handling the cedar wood which is the principal article of export from the estate.

In 1888, Mr. Rafael Ortega planted at "Los Cerritos" over 50,000 rubber trees which can be seen while going by the country road from San Benito to Tapachula. This is a sugar cane estate, devoted to the making of rum for consumption within the country. The trees were planted in the open, bordering on both sides of the road, and probably 40,000 are still standing. Naturally all of the original planting would not survive, besides which some of the trees have been injured by the crowding of wagons when forced out of the regular roadbed by its bad condition in the muddy season. Mr. Ortega was a large coffee planter on another estate owned by him, and, getting into financial difficulties, was obliged to surrender all his properties, including that on which these rubber trees stand, to a German house, on account of advances made to him, and who are represented at Tapachula by the import and export firm of Louis Tomelen & Co. The rubber gathered from these trees is shipped to the various connections of the house of Tomelen.

In 1898, Mr. Ferdinand Nehlsen started in planting rubber trees on the "Ulapa" tract of his property, where there are many wild rubber trees. He has to-day over 1,000 plants handsomely growing. These trees were planted in the open in the grass lands, such as are maintained for grazing, which is the principal interest on this estate. The estate is near the Indian town of Excuintla, about 28 leagues from Tapachula.

In 1899 La Zacualpa Rubber Plantation Co. planted over 30,000 rubber trees, to duly appreciate the development of which they must be seen personally. This company is already tapping cultivated trees, which were planted by the former owner of said "Zacualpa" tract, to shade his cocoa plantation, some twelve years ago, and during the last year has planted over 500,000 young rubber trees.

The Soconusco Rubber Plantation Co., organized by me and incorporated under the laws of California October 16, 1900, owns 17,858 acres, with over 5000 wild rubber trees yielding gum, and intends to transplant from its nurseries this year as many young trees as possible to enhance its production.

What precedes is sufficient in my opinion to demonstrate incontestibly the possibilities of rubber culture in the Soconusco district, and persons who are interested in this important source of wealth, if considering the matter seriously, will find out that the industry has long since passed the experimental

*It seems proper to state here that Messrs. Marquardt & Co. and also Messrs. Loaiza & Co. advise THE INDIA RUBBER WORLD that no rubber which they may have received from Mexico at any time has been described to them as being the product of planted trees.—THE EDITOR.

stage in Soconusco, and to day there are many companies and individuals gathering and shipping rubber from wild and cultivated trees, or selling it in the Tapachula market.

The time required to produce gum from the *Castilloa elastica* rubber tree depends upon the locality, rainfall, and methods used for its cultivation. My estimates of production and tapping age are based upon my personal experience and close observation, and not upon what others have written. The cultivated rubber tree blossoms after the sixth year, and cannot be tapped before this time without injury. The rainfall of the previous year generally determines the earliness of the season, the number of the blooms, the quality of the seeds, and the flow and quality of the milk itself.

The sap furnished by a seven year old rubber tree should yield a minimum of $1\frac{1}{2}$ pounds of pure rubber, and as every tree increases its yield by no less than $\frac{1}{2}$ a pound of gum annually until its twenty-fifth year of age, at least from 15 to 20 pounds of pure gum should be obtained yearly thereafter during the life of the tree. So an acre of land containing 220 rubber-trees planted 14 feet apart each way, will give at the end of the sixth year—or to be more exact, in the first crop made during its seventh year of existence—330 pounds of pure rubber, which at the rate of 50 cents gold, would give a revenue of \$165. If this estimate of $1\frac{1}{2}$ pounds per tree should not seem conservative enough, let it be one pound to the tree, and the return per acre will be \$110.

The hardness of the *Castilloa elastica* tree simplifies its culture very much, and as it possesses a vitality superior to that of the weeds or of any other kind of vegetation, it does not require heavy expenses for frequent weedings. If without any help from man such trees can grow for hundreds of years in wild woods full of vines, briars, and many other plants, under cultivation they can certainly outlive the weeds.

I shall be very glad if the data contained in this letter contributes to its object, which is to increase among agriculturists and business men of enterprise the desire to plant on a large scale fields of rubber-trees in the localities suitable for that purpose.

CHAS. G. CANO, C. E.

New York, June 21, 1901.

[THE writer of the above letter has spent nearly ten years in the district to which the letter relates. He went there first, at the request of President Diaz, to reform the customs service at Tapachula. He next became manager of the large coffee plantation "Guatima," of L. R. Brewer, in Soconusco. He was later employed as civil engineer on the line of the Occidental railroad, in Guatemala, after which he became engaged in the importation of Guatemala coffee at San Francisco. He has thus had ample opportunity to study the resources of southern Mexico, and has taken special pains to become acquainted with the prospects for rubber cultivation.—THE EDITOR.]

A PIONEER IMPORTATION,

LAST month was mentioned in this paper the initial shipment, to the United States, on a commercial scale, of India-rubber from a cultivated plantation, and described as such. It was a lot received at San Francisco, on June 1, by the steamer *Palena*, for the Bowers Rubber Co., from La Zacualpa Rubber Plantation Co., of Tapachula, state of Chiapas, Mexico. THE INDIA RUBBER WORLD since has seen the original bill of lading and consular certificate accompanying this shipment, and, as it is the first transaction of its kind, it appears worth while to record the details of the beginning of what doubtless will become in time a very important business. By the way, La Zacualpa Rubber Plantation Co. inform THE INDIA RUBBER WORLD:

Our resident director, Mr. O. H. Harrison, from whom we purchased

La Zacualpa rubber plantation, has for some years past been shipping rubber from this plantation to Messrs. Cotesworth & Powell, 148, Lead-enball street, London, the production of which has now reached about 30,000 pounds yearly. Of this amount, some 12,000 pounds is gathered from 5000 cultivated trees planted by José Pelaez (from whom Mr. Harrison purchased the plantation) in 1889 and 1900, the remaining 18,000 pounds being gathered from wild trees discovered to date on our plantation.

The shipment was made from the port of San Benito, Mexico, by the Compañía de Navegacion por Vapor en el Pacifico, the invoice, dated May 20, 1901, being for—

7 Bales of rubber, net weight
483 kilos @ \$2 \$966 (Mexican)

—which would amount to 1063 pounds. It was accompanied by Manager Harrison's draft on the San Francisco office of his company for \$500 (gold). There being no United States consul at San Benito, the invoice was viséd by the German consul, to whom was paid \$4.50 (Mexican) in fees. The invoice is signed by the Empresa de Lanchos en San Benito, S. A., as agent of the owner of the merchandise. The company further report:

This shipment of rubber is the first of this year's crop, and was cured by the regular native method, which consists in spreading the milk on



COAGULATING RUBBER ON LEAVES IN THE SUN.

large plantation leaves and permitting it to coagulate in the sun. These leaves are about 2 feet wide and 3 feet long. - - - This shipment of rubber from our plantation has attracted a great deal of attention here [at San Francisco] and Mr. Bowers has kindly allowed us to retain it in our office, and also to put it on exhibition in Mechanics' pavilion during the Epworth League convention, commencing July 15. Two bales of 150 pounds each are now in his factory, being washed and run into sheets for said exhibition. This will enable him to definitely fix the grade of our rubber and its corresponding price, which we will send to you as soon as received.

SANTA MARIA CHIMALAPA PLANTATION CO.

[Plantation at Santa Maria Chimalapa, district of Juchitan, state of Oaxaca, Mexico. Offices: Buhl block, Detroit, Michigan, and Mexico City.]

THIS tract of 87,750 acres, known as the "hacienda de Santa Maria Chimalapa," owned formerly by the Duplan brothers, was bought in January, 1901, by Sidney A. Witherbee, of Detroit, Michigan, who had already important railway and mining interests in Mexico. The location is on the north side of the divide between the Pacific and the gulf, the tract being watered by streams flowing into the river Coatzacoalcas, and near the National Tehuantepec railway. The company was incorporated under the laws of Delaware, April 30, 1901, with an authorized capital of \$3,071,250, in 87,750 shares of \$35, each share

representing one acre. After development capital for immediate use has been realized from the sale of shares at par, it is intended to raise the price of the remaining shares. It is planned to plant tobacco, sugar, and bananas, to yield an annual income while waiting for the growth of coffee and rubber. The company's officers are: Ygnacio de la Torre y Mier (managing director of the Bank of London and Mexico), president; Cameron Currie (a banker of Detroit), vice president; Sidney A. Witherbee, secretary; Charles G. Olds (of Detroit), treasurer and assistant secretary. Señor de la Torre y Mier, mentioned above, is a son in law of President Diaz, of Mexico, whose son, Captain Porfirio Diaz, a civil engineer, is also a director in the company.

UBERO PLANTATION CO. NO. 2.

[Plantation at Ubero, state of Oaxaca, Mexico. Office: Terre Haute, Indiana.]

INCORPORATED under Indiana laws in January, 1901; owns 500 acres, purchased from the Mexico Coffee and Rubber Co., of Indianapolis, adjoining the property of the original Ubero Plantation Co., of Indianapolis. The capital of the company is \$500,000. They purpose planting rubber, coffee, and pineapples. The officers are: Willard Kidder, president; J. P. Worrall, M. D., vice president; Oskar Durnweg, secretary; Bertis McCormick (cashier First National Bank of Terre Haute), treasurer. The executive force at the plantation will be headed by F. L. Torres, general manager of the other Ubero properties, and of whom a sketch was published in THE INDIA RUBBER WORLD of May 1, 1901.

THE NORTH AMERICA RUBBER CULTURE CO.

[Plantation "Columbia," near Santa Lucrecia, canton of Juchitan, state of Oaxaca, Mexico. Offices: New York Life building, Kansas City, Missouri.]

INCORPORATED under Delaware laws, March 16, 1901; capital, \$110,000. Officers: Delbert J. Haff president; T. K. Hanna and P. H. Showalter vice presidents; T. F. Willis secretary; C. H. V. Lewis treasurer; Louis Kunz, plantation manager. —In 1884 was organized at Kansas City, primarily to plant coffee, the *Mexican Gulf Agricultural Co.*, who established the now famous "Dos Rios" plantation in Mexico. From an initial capital of \$50,000 they now have a paid up capital of \$500,000, net assets of \$1,000,000, and control 20,000 acres of plantation. In addition, from its resources and investors the *Dos Rios Planters' Association* has been formed, with \$450,000 capital. From the beginning the company paid attention to India-rubber, with the result that in 1898 was organized, practically by the same parties, the *Mexican Tropical Planters' Co.*, which formed a rubber plantation on part of a large tract bought for the purpose. For the purpose of improving another portion of this tract, investing additional capital, and enlarging the staff, the *North America Rubber Culture Co.* has been formed. Mr. Haff is president of all the companies named, and all the experience in tropical planting gained by the older companies is at the disposal of the newest one. —The company have issued \$220,000 in 6 per cent. gold first mortgage improvement bonds, redeemable in twenty years, one bond (\$500) and 2½ shares (\$250) being sold for \$400, payable in five annual instalments. The Fidelity Trust Co. (Kansas City) are trustees. The investor may obtain a life policy in the Prudential Insurance Co. of America for an amount equal to the aggregate of his payments. One half of the issue of securities has been taken by the founders of the company. The company hold 1000 acres of land in fee simple, to be developed under contract by the Mexican Tropical Planters' Co., 900 acres to be planted in rubber, the other 100 acres to be devoted to buildings and to other crops, including such as may be necessary for the subsistence of the laborers.

TABASCO PLANTATION COMPANY.

[Plantation in the district of Tacatalpa, state of Tabasco, Mexico. Office: Minneapolis, Minnesota.]

INCORPORATED June 13, 1901, under the laws of Delaware; capital, \$2,100,000. Have acquired a partially developed plantation of 7000 acres, on the navigable river Macuspana, which facilitates communication with the gulf. This property was owned by Fernando & Leopoldo Sanchez, and is said to be one of the best developed estates in Tabasco. The former proprietors have taken an important part of the stock of the new company. Various crops now growing on the estate, including 2000 rubber trees, one to six years old. Arrangements making to plant 800 acres more in rubber. The officers are: S. H. Bowman, of the S. H. Bowman Lumber Co., president; George P. Lyman, assistant passenger agent of Chicago, Burlington and Quincy railway, vice president; J. de las Munecas Zimaville, of San Juan Bautista, Mexico, second vice president; James C. Fifield, of the law firm Fifield, Fletcher & Fifield, secretary; W. V. Fifield, treasurer. Among the directors are Frank E. Holton, of the Metropolitan bank, and W. S. Jones, of the Minneapolis *Commercial Bulletin*. —The same officers and directors hold like positions in the Tabasco Land and Development Co., incorporated at the same time in Delaware, for the purpose of doing a general business in buying and developing lands in Mexico. Their capital is \$100,000, with authority to increase to \$10,000,000.

THE OBISPO RUBBER PLANTATION CO.

[Plantation "La Republica," state of Oaxaca, Mexico. Offices: Park Row building, New York.]

J. HERBERT FOSTER, of Meriden, Connecticut, wrote on June 27 from Tuxtepec, Mexico, to the Meriden *Journal*: "There is one large rubber plantation just being developed along the line of the Vera Cruz and Pacific railroad. It is called the Obispo plantation and has 9000 acres. The manager has planted 800,000 rubber seeds and is now working on 700,000 more. He expects to get at least 1,000,000 rubber trees, and they will be up in a month or more. This is the largest place I have yet seen and it looks well. They have 125 acres of corn and pineapples well along. I went over the undeveloped parts of the place and found a profusion of wild rubber trees." —The Obispo Rubber Plantation Co. was incorporated February 25, 1901, under New Jersey laws, to cultivate rubber; capital \$2100. Incorporators: Maxwell F. Riddle, Byron E. Carl, John H. Brewster, Jr. Principal office: No. 6 Depot square, Englewood, New Jersey. This is the company which, ultimately, will control the plantation now being developed by the Republic Development Co., mentioned already in THE INDIA RUBBER WORLD.

THE MEXICAN PLANTATION CO. OF WISCONSIN.

[Plantation "La Crosse," state of Oaxaca, Mexico. Office: La Crosse, Wisconsin.]

THIS company, mentioned in our issue of June 1 [page 270], have issued a pamphlet prospectus containing a list of their first 100 stockholders, who are representative business and professional men throughout Wisconsin. The company own 2000 acres, on the line of the National Tehuantepec railway, adjoining the "Ubero" plantations on the south. They propose to cultivate sugar and India-rubber, planting the latter thickly, with a view to thinning out after three or four years. The company will erect a sugar mill and expect to begin grinding cane in about two years. The company offer 6 per cent. preferred and common stock, for cash or on installments. Michael Funk is president, Henry A. Salzer vice president, Albert Platz treasurer, Edward A. Funk secretary, and Eman L. Beck plantation manager, Michael Funk and Albert P.

Funk are, respectively, president and secretary of the La Crosse Rubber Mills Co.

RUBBER PLANTATIONS AT TULA, MEXICO.

J. HERBERT FOSTER, late of the Rubber Alphabets Co. (Meriden, Connecticut), writes to the Meriden *News* from Tula, state of Vera Cruz, Mexico, that he finds there a colony of thirty-five Americans, all interested more or less in planting rubber, and all confident of success. Most of them went to Mexico in 1896 and 1897, and, in connection with other planting, they have about 350,000 rubber trees growing, and expect to set out this year 500,000 more. He found only two plantations for sale, and one of these only because of the death of a partner. Four year old trees are 25 feet tall and 8 inches in diameter. They are expected to yield a pound of rubber at six years, and some planters figure at two pounds, with 220 trees to the acre, this amount increasing with the age of the trees. The Indians used to cut down the wild trees and get 40 to 50 pounds at once, if the tree was large. Now that they are not allowed to do this, they often get 15 to 25 pounds, by weakening the trees. The Indians allow the rubber milk to run down the trunks of the trees into a hole in the ground, so that the Mexican rubber of commerce contains much dirt. It is expected, when the planted trees begin to yield, that rubber of a much better character will be produced, and that it will bring better prices.

MEXICAN COFFEE AND RUBBER CO.'S DIVIDENDS.

THE annual meeting of the stockholders was held at Indianapolis, Indiana, July 18. On the same day the directors declared a dividend for the year of 10 per cent., and decided to pay during the next business year quarterly dividends of 3 per cent. The company owned originally 5000 acres on the isthmus of Tehuantepec, of which 4000 have been sold to planting companies since formed, under contracts by which the Mexican Coffee and Rubber Co. are to develop their plantations. The dividend above referred to has been declared, not as the result of the sale of any products thus far, but from profits from the other transactions referred to.—The stockholders of the Ubero Plantation Co., of Indianapolis, one of the companies who purchased land from the Mexican Coffee and Rubber Co., met at Indianapolis on the same date and elected Dr. Nathan D. Woodard, of that city, to fill a vacancy in the directorate. The Ubero company have earned dividends amounting to 25 per cent. for two years by the cultivation of annual crops, while waiting for their rubber plantation to be developed.—The Hon. William D. Owen, late secretary of state of Indiana, is president of both the companies named above, besides being connected with two other closely related companies—the Isthmus Rubber Co. of Ubero (with headquarters in New York) and the Ubero Plantation Co. of Boston. W. I. Overstreet, secretary and treasurer of the Isthmus Rubber Co., is chairman of the executive committee of the two above named companies.

PROGRESS IN NICARAGUA.

A LETTER from James S. Nodine, manager of the Manhattan Rubber Plantation, at Bluefields, to THE INDIA RUBBER WORLD, states that on the day of writing—June 24—he gathered seeds from cultivated *Castilloa elastica* rubber plants two years old. The plantation, he reports, is showing the most satisfactory progress, leaving no room for doubt as to ultimate success. There are, altogether, about eighteen rubber plantations at Bluefields. Mr. Nodine writes that this year two of the planters in the district will tap their rubber for the first time. On the Manhattan plantation last year some Pará rubber seeds were planted, a large percentage of which germi-

nated, and the plants are now growing well. Mr. Nodine has shipped rubber seed from wild trees this year to planters in Mexico.

RUBBER PLANTING IN THE MALAY STATES.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We think that this is a great rubber growing country, and that if prices only hold there is a lot of money in it. Labor and suitable land are cheap and plentiful, and we have no fault to find with the yield either of *Hevea Brasiliensis* (Pará) or *Ficus elastica*, locally known as "Gutta rambong." A certain amount of *Castilloa elastica* has been introduced, but it does not promise well, though apparently yielding large quantities of Caoutchouc, because, having a pithy and very brittle trunk, it is peculiarly liable to the attacks of the worst of our termites (*Termes gestroi*)—a white ant—which thrives on such food, and, commencing from below the ground, eats up through the center of the tree. Borers, too, attack and destroy the branches. *Kickxia Africana* has been introduced in small quantities, but it is impossible to predict the success or failure of this rubber, as our biggest trees are scarcely more than seedlings yet.

For Pará rubber and *Ficus elastica*, however, there seems to be a great future, and any of your friends who are interested in the subject, and who would like to see what we are doing, might do worse than try a run over, with a note from you. I would gladly show them round and put them in the way of seeing all we have to show, and possibly they might think this small corner of the earth, not so bad after all. Rich in minerals, gold, and tin, with a great agricultural future before it, the Malay peninsula will hold its own with many countries better known at present. All we want is money and confidence and the country will boom like wildfire.

Coffee has gone down with such a rush that many of us have lost pretty well all we have put in it, but we calculate in another three years to be on our legs again with rubber, and fancy that the rise in the sterling value of the *milreis* will knock agriculture pretty hard in the Brazils, while our coinage practically follows bar silver values.

A PLANTER.

Klang, Selangor, May 31, 1901.

THE AGE FOR TAPPING RUBBER.

MESSRS. BULNES & Co., merchants at San Juan Bautista, state of Tabasco, Mexico, and directors of the Banco de Tabasco, in writing to THE INDIA RUBBER WORLD regarding the activity of Americans in planting rubber in that region, add:

"Now, some people abroad think that an India-rubber tree can safely be 'milked' after five years from its plantation, without any damage being done to it. This is simply erroneous. The tree is not fully developed, and with the extraction before maturity its growth is checked and the tree ruined. It should be left to grow eight years, at least."

RUBBER PLANTING COMPANY PUBLICATIONS.

THE North America Rubber Culture Co., Kansas City, Missouri.—Rubber Raising as a Permanent Investment. 48 pp. + maps.

La Zacualpa Rubber Plantation Co., San Francisco, California.—Facts for Investors. 24 pp.

The Santa María Chimalapa Plantation Co., Detroit, Michigan.—(1) [Handsomely Illustrated Prospectus.] 32 pp. (2) The Chimalapa Bulletin, June, 1901. 4 pp.

The Mexican Rubber Plantation Co. of Wisconsin, La Crosse, Wis.—A Business Men's Proposition for Business People. 48 pp.

The Soconusco Rubber Plantation Co., San Francisco.—[Pamphlet containing prospectus and map.] 16 pp.

Pacific Rubber Co., New York.—A Five Per Cent. Investment. 16 pp.

Commonwealth Mexican Plantation Association of Chicago.—Rubber, Sugar Cane, and Coffee in Tropical Mexico. 40 pp. + maps.

EXPLOSIONS OF VOLATILE VAPORS IN FACTORIES.

By H. L. Terry, F. I. C.

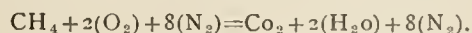
THERE was recently a serious explosion at the hat factory of Messrs. Wilson & Sons, at Denton, near Manchester, whereby fourteen persons were killed. Although discussion of affairs relating particularly to the hat trade does not come within the purview of this journal, yet there was so much identity between this catastrophe and others which have happened, and may not improbably happen again in India-rubber works, that I feel that it is not superfluous to say a few words on some of the salient points investigated at the inquest. The explosion occurred in the drying stove, where the hats, after being dipped in a solution of shellac in methylated spirit, were placed in order that the vapor might be evaporated. This operation is one that is common to the trade, and although some slight explosions have been recorded, nothing at all serious seems to have happened to demonstrate to the manufacturers the latent possibilities of disaster. In general the alcoholic vapors have been allowed to escape, through ventilators, into the atmosphere, but now in several works both in England and the United States are to be found recovery installations, the vapors being condensed for use over again. That the recovery process when in operation lessens any risk of explosion, the evidence which has been given by a hat manufacturer of America who has several of these recovery plants in operation tends strongly to show, but unfortunately in the case of the recent explosion, which happened on a Monday forenoon, the recovery plant was not working, a fact which undoubtedly formed a prominent factor in the situation.

The case was thoroughly investigated by the chief inspector of explosives to the Home office, and as there were several points in his evidence at the inquest which are of technical interest, I shall proceed to touch on some of them. Commencing with a generality I quote his statement that the full extent of the danger in these stoves did not appear to have been realized by the majority of hat makers. This is no doubt true. Probably the majority of hat makers know little or nothing about the laws of chemical combination that operate when certain proportions of oxygen or air and of volatile vapors come into contact with a flame. The reference need not be limited to hat manufacturers as far as ignorance of such scientific detail goes. It may fitly be extended to many trades where volatile vapors are used in some form or other. In addition to the rubber manufacturer with his naphtha and carbon bisulphide, there is the dry cleaner who uses benzoline instead of soap, and there are many concerns where volatile solvents are used as extractive media.

Now it goes without saying that practically all from the master to the humblest employé know that such solvents will take fire if brought into contact with a light, but in many cases this represents the sum total of their knowledge; the fact that a material may take fire and burn quietly when one set of conditions prevail and that the same material may explode with disastrous consequences when the conditions are altered, may be but to only a slight extent, is not one that has impressed itself at all generally upon the minds of those who hold positions of authority in works where such dangerous elements are found. Take any of these volatile solvents, naphtha, carbon bisulphide, methylated spirit, etc., and set fire to a small quantity either in the open or in a vessel filled with them and communicating with the air by means of a tube and what happens: a flame is produced and burns quietly. Suppose, however, we alter the

conditions and shake up a small quantity of the liquid in a vessel with a definite quantity of air; on firing it either by a flame or by electric spark we get a violent explosion. The latent energy that vapors possess and which reveals itself under the condition just named is not sufficiently widely known, and I think that the government inspectors would be doing useful service if they issued information of the sort to the various factories where volatile solvents are used.

In two fatal explosions which have occurred in the dry cleaning process, the evidence went as in the present case to show a lamentable lack of knowledge on the part of the principals as to the potency of the agents they employed, and it certainly seems desirable that the workmen should not be exposed to risks by reason of the failure of their employers to recognize the possibilities of disaster. The inspector said that from the violence of the explosion it was evident that the theoretical mixture of air and alcoholic vapor must have been present, and this proportion, he went on to say, was one of vapor to twelve of air. Later on he says in his evidence, when discussing the details, that there was several times as much spirit as would be required to form the most explosive mixture. Now, I have had no acquaintance with the explosion of alcoholic vapors, but I cannot quite reconcile these statements to theory. To get explosion or instantaneous combustion in a limited area, the theoretical proportions of air and vapor are necessary; if one or the other is in excess, the explosion is either very feeble or does not occur at all. I know in the experiments which I have made with carbon bisulphide and naphtha that an excess of air or of vapor prevents the explosion, and the remark quoted above, that the alcoholic vapor was in excess, does not harmonize with the facts of the explosion. Of course, the excess in this case may only have been to such an extent as to modify without preventing the explosion, though this supposition hardly coincides with the statement as to the atmosphere of greatest explosibility being present. The necessary conditions for an explosion are: (1) The proper amount of air; (2) due admixture of this air with the vapor; (3) a sufficiently high temperature to set fire to it. Perhaps the best example of this is to be seen in cases of colliery explosions of marsh gas or fire damp, and at the risk of boring my readers by going too much into detail, I append the combustion equation of such an explosion:



Here we see that complete combustion takes place, the proportion of fire damp and air by weight being 1 in 20, and by volume 1 in 10, which is the most explosive mixture. To pursue the subject further on scientific lines would require much more space than the present occasion affords, and it might, moreover, not prove of general interest. That it is of importance will, however, I think, be generally conceded, and the three conditions mentioned above should be duly noted. Referring for a moment to No. 3, the temperature of ignition will be found to vary within wide limits in the case of different vapors. For instance, marsh gas requires a flame or electric spark, and so does alcoholic vapor, while carbon bisulphide vapor, on the other hand, will ignite by a hot—not by any means a red hot—piece of iron. The temperature required in the hat explosion is stated to be 1200° C., and therefore a light must have come into contact with the vapor, though by what agency

the inquest failed to discover. There was close questioning by the coroner as to the notices against smoking, and on this point the firm were able to give satisfactory answers. Nowadays, what with employers' liability and other ropes round his neck, the manufacturer cannot take too much care to see that he safeguards his interests sufficiently, and it cannot be considered as a waste of time or labor to go beyond experience and to investigate possibilities.

In a recent important trial for damage done to surrounding property by an explosion, the jury held that the nature of the chemical products should have been investigated, and although this may sound like laying down a law difficult to comply with, it is clear that if this view obtains general acceptance those who make and those who use chemicals will not be able to shelter themselves in the future comfortably under the plea of ignorance. It is difficult to see how any manufacturer who causes an explosion by unscientific or careless handling of volatile vapors can expect to escape from the consequence thereof. Despite newspaper references to pent up forces suddenly and mysteriously coming into action there has been nothing about the recent explosions which have taken place in England which is not immediately explainable by theory and there can be no doubt that in the future the manufacturer will be held more responsible for pleading ignorance of this theory than has been the case in the past. Scientific matters are not, of course, immediately assimilable by those who have had no scientific training, and the fact that expert advice has been sought cannot fail to have weight in any case of disaster arising.

Lack of attention to matters of ordinary precaution, such as the posting of notices relating to lights, to smoking, etc., can easily be remedied, and the more general labelling of casks containing volatile liquids with warning notices as to lights suggests itself as desirable. A point which has sometimes given rise to trouble in rubber works is the disposal of waste bisulphide of carbon liquor. I have known of cases where this has got into drains and been fired by steam pipes, and where it has been fired on accumulating in places where the damage done was really serious. Every precaution should, therefore, be taken to see that its ultimate disposal is carried out with due prudence and foresight. A word may fitly be said with regard to the volatility of naphtha used in spreading. There is a tendency at the present day to use more volatile naphtha than was the case ten or twenty years ago, and it may be that the risk of fire or explosion in the work rooms is increased. I do not myself know that the risk is really greater than formerly, and incline to the opinion that with proper ventilation there need be no danger of explosion at all whatever may be the case with inflammability by electric spark. Certainly the light naphthas are now being generally used with as much immunity from disaster as before, and the point is only referred to on account of some remarks recently made to me on the subject by a rubber manufacturer. As a rule, spreading is carried on in rooms plentifully supplied with windows, and it would be difficult for the atmosphere to assume explosive proportions; where, however, the ventilation is not of the best the use of a fan or a Roots blower as an auxiliary is often advisable.

The use of naphtha recovery plant has made but little headway, though the removal and condensation of the fumes entirely prevents the dangerous accumulation of vapors. An addendum should be made to this statement in the form of a warning as to the likelihood of danger arising from a stoppage of the recovery process. A recovery plant which was generally employed in the case of the hat works was at the time of the explosion not at work, and though the process itself could

not be blamed in any way directly for the catastrophe, the fact must be remembered that where recovery processes are in operation vapors accumulate rapidly. Should then any accident happen to the machinery and means of ventilation not be at hand the situation of course becomes one of peril. An instance of this is to be seen in the explosions which have occurred in uncaloring machines which have been boxed in under the new Factory Act regulations. Under the old open air system explosions never occurred, though fires were not unknown; now, however, if the strap happens to come off the fan when work is in progress it only takes a few minutes for an explosive atmosphere to collect. It seems to be imperative, therefore, that in all recovery plants effective means of ventilation should be at hand to avert danger arising from any stoppage. An apology is due, I feel, for the desultory nature of this article, but it is hoped that the points touched upon will prove of sufficient interest to justify their insertion in THE INDIA RUBBER WORLD.

Manchester, England.

CHICLE AND CHEWING GUM.

THE New York *Sun*, in an article on Chicle, says: "The largest chewing gum company in America has recently acquired 2,500,000 acres of land in Yucatan [a district in Mexico] and is working it as a source of supply. The company's managers take the workmen in from Vera Cruz." The customs figures supply these details as to imports, in pounds, for the last two fiscal years:

COUNTRIES.	1898-99.	1899-1900.
Mexico.....	2,100,879	2,197,864
Honduras.....	....	9,270
Guatemala.....	286,060	994
British Honduras.....	94	89,754
Cuba.....	55,647	....
France.....	2,381	....
Germany.....	....	110
Total.....	2,445,061	2,297,992

The *Sun's* article would give the impression that the export trade in Chicle chewing gum had attained large proportions, particularly to South Africa, where it is said to have become popular with the British soldier. The official export figures, however, while showing that shipments have been made to many different countries, give small totals. The exports are given as follows:

1894.	1895.	1896.	1897.	1898.	1899.	1900.
\$2658.	\$1700.	\$289.	Nil.	\$805.	\$19,991.	\$8725.

In the year for which the largest figures are given Great Britain took \$10,920 worth; Canada \$3207; Mexico \$1869; and British Africa \$1178. Last year Canada took \$3384 worth, and the other countries named, almost none. The manufacture of chewing gum in Canada last year called for 330,082 pounds of Chicle, which was imported from the United States.

The June *Bulletin* of the Bureau of American Republics says: "On May 8, in New York, 2,000,000 pounds of gum Chicle were purchased by the American Chicle Co., the price being about 40 cents a pound, or \$800,000 in all." The statement would possess more interest if accompanied by details to aid in its verification.

The annual meeting of stockholders of the American Chicle Co. was held at Jersey City on July 16. The old board of directors was reëlected. The directors also reëlected the retiring officers. There was no financial statement submitted at the meeting.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE cable manufacturing firm of Johnson & Phillips, of Charlton, near London, are putting down rubber machinery, so as to make their own strip and compounds.

This firm has up the present contracted with rubber manufacturers for its insulation, the compounds being made to the firm's own formula. This move will necessarily mean loss of business to certain rubber works, as the orders given out were of some magnitude. Other firms who have not so far put down their own rubber machinery are Messrs. Glover, of Manchester; Messrs. Rickard, of Derby; Messrs. Conolly, of Blackley, Manchester; and the Northern Electric Wire Co., of Halifax. So far there is not much progress to report about the works of the new Anchor Cable Co., of Leigh, Lancashire, and I am unable to give the name of the manager; as far as the board itself is concerned, I hardly imagine that the bulk of the members would claim anything more than a very superficial knowledge of the business into which they are entering. The Northern Electric Wire Co., of Halifax, though at one time an independent concern, is now practically in the hands of Messrs. Patchett, the well known card clothing manufacturers. The business done is that for house wiring purposes, what may be called the heavy cable trade not being touched.

I SEE it is announced that a rubber boot and shoe varnish of American origin is now for sale by a Liverpool agency. It certainly is a fact that the British makers of these goods are open to listen to suggestions as to the improvements of their varnish as they acknowledge the superiority of the Russian finish. Whether they will get now what they want is a matter in which I may be excused for having my doubts, as I know the secret of the Russians is religiously kept. A point about the success or failure of such varnish is the composition of the rubber mixing; what may give perfect results with one firm may not turn out at all satisfactory in another case. It is this point which makes it so difficult for an outsider to supply advice of value except in those rare cases where the rubber manufacturer makes no secret of his mixings and methods.

THIS branch of manufacture, from all reports, shows no diminution. Despite counter attractions, the game shows no falling

off in popularity in this country, and it is continually finding new openings abroad. The fact that the regulation match ball has to be of uniform size and elasticity has led in some cases to a good deal of bother, and one at least has decided to have nothing more to do with making the balls to any definite standard, the business they obtain from quarters where exactness is not required being enough to keep them going. In some cases the balls are finished outright at the rubber works, while in other cases the cloth covering is put on by the middleman. Besides the ordinary ball there has been for some years a steady demand for the uncovered red ball, the Irwell Rubber Co. being well known in connection with this variety, their ball being much more free from that efflorescence of sulphur which disfigures the product of competing firms. I never seem to come across these balls myself, either in clubs or on private lawns, but there evidently is a demand for them in some quarters. Perhaps a number of them are used simply as toys by children, as I believe is the case with a good many of the ordinary tennis balls which are

sold uncovered. With regard to the inflation during vulcanization in the mould, carbonate of ammonia still holds the field, the various substitutes that have been from time to time proposed not having proved their utility.

SOME flutter in the dove cotes inhabited by Paris agents for recovered rubber firms has been caused by an anonymous article in a recent number of *L'Auto-Vélo*, the Parisian organ of the cycle and motor interests. The article referred in condemnatory terms to the use of recovered rubber generally, but with especial reference to tires. With what was said as regards tires, especially motor tires, I am almost entirely in agreement, but the writer, in my mind, has allowed his indignation to get the better of him in referring to rubber goods generally, and further, he rather writes as if the term "recovered rubber" applied to a substance of a definite uniform make, whereas, of course, there are bodies described thus of very different quality and price upon the market. As long as the motor people ask for and are willing to pay for the very best quality rubber that can be made, it would certainly be suicidal policy on the part of makers to attempt economies, though, of course, the case is quite different where there is a demand for a cheap grade of goods and which can not at the price possibly be made entirely of new rubber. The remark made in the article with regard to the very small progress which has been made in devulcanizing I am in perfect accord. I wonder how long it will be before a really useful product is made from pure vulcanized waste.

I UNDERSTAND that a new tire is being made by the Leyland and Birmingham Rubber Co. and rumors are about regarding the entry of other firms into this business.

THE MOTOR TIRE. Meanwhile foreign competition is increasing, the British agent of the New York Belting and Packing Co., Limited, having recently, I understand, done considerable business with the motor firms at Coventry. This tire is practically a tubeless one, as the inner tube and outer cover are vulcanized together. The increasing weight of the vehicles and the high speed at which racing contests are run are factors of primary importance with regard to the life of the rubber tire, though the suggestion to use a covering of leather—by no means a novel idea—is hardly likely to prove of value. What with the danger from speed and the annoyance by the raising of clouds of dust, the automobilist is not looked upon with too friendly an eye by the public. By way of checking the latter evil, a prize is offered, value £100, by the *Automobile Journal* for the best way of laying the dust—rather a difficult problem it strikes me.

THE decision come to by the shareholders to put the pen through a large amount of the capital of this concern, seems to

be the only course to pursue under the circumstances of the declared invalidity of the patent.

PEGAMOID, LIMITED. The proceedings about to be commenced against the original vendors should be productive of some interesting evidence. I note that Mr. Fletcher Moulton, K. C., explains that his opinion on the patent was obtained under a misconception. Some such explanation is certainly desirable, but it may not strike everyone as being quite complete enough. According to the directors' statement, a genuine and increasing business is being done by Pegamoid, Limited, but I imagine that whatever may be the amount of capital, the concern is

THE
CABLE
MANUFACTURE.RECOVERED
RUBBER.RUBBER SHOE
VARNISH.PEGAMOID,
LIMITED.

never likely to prove a Golconda for the shareholders, on account of the opposition already existent and in prospect. With regard to some of this opposition, there is the newly started works of the Winterbottom Book Cloth Co., at Mouton Green near Manchester. The products of this company, which are of a Pegamoid nature, are stated to be capable of replacing rubber in many of its applications, and I hope to be able to say something definite on the subject in a future letter.

THE reorganization scheme of the Dunlop Pneumatic Tyre Co., though it is certainly somewhat unpalatable to the ordinary shareholders, has been favorably received by the London financial press, the fact that something drastic was absolutely necessary having long been recognized. Seeing that the debenture and preference shareholders stuck out for their legal rights, it was inevitable that the ordinary shareholders must bear the brunt of the reduction of capital. It will be interesting to watch developments when the patent lapses and competition becomes rampant, but "sufficient unto the day is the evil thereof" will properly be the resigned cry of those most interested. The company has addressed a circular to its stockholders proposing a reduction of capital from £4,573,200 to £3,213,200, this action having been foreshadowed in certain proceedings reported in the last INDIA RUBBER WORLD.

THE scare that existed for a short time with regard to the possible contamination of beer by traces of arsenic in rubber chemicals, has completely subsided, the principal requisition with brewers' hose being freedom from smell. This is attended to by the makers as far as possible, the precaution taken being that of using a good quality rubber. Any idea that the smell can be removed by subsequent chemical treatment is erroneous, though I notice in a text book on brewing a statement to the effect that brewers treat their rubber hose with nitric acid solution, in order to sweeten it. The use of nitric acid for any purpose in connection with rubber is not to be recommended, as even in a very dilute form it has an injurious oxidising action.

A CERTAIN amount of excitement has been caused among raw rubber importers by the announcement of the formation of the Bolivian Chartered Co., by the American Rubber Trust, though it is not supposed that London or Liverpool will be affected to any extent. The facts are probably as well or better known in American trade circles than is the case here. As far as my information goes, the affair seems to have every prospect of success, the elements of disaster which were so conspicuous in the case of the Rubber Estates of Pará, Limited, being in this case as far as one can judge completely absent.*

VARIOUS attempts have been made in past days to prevent the blooming or efflorescence of sulphur on rubber goods. The latest proposal to effect this end is a special form of sulphur patented by Dr. Carl Otto Weber and now on the market. The inventor himself expresses himself as well satisfied with the results which have been obtained with black goods, but enquiries in the trade have not elicited anything definite in the way of approval or disapproval, a fact which may be attributed to the somewhat dilatory manner in which experiments with novelties are carried out by the majority of our firms. With regard to sulphur itself, there is no question that much less blooming is caused by using precipitated instead of flowers of sulphur, the extremely minute

degree of subdivision being favorable to a more complete chemical combination. I remember making trials some years ago of a so-called non-blooming sulphur, which consisted of flowers of sulphur mixed with stearine, but the results certainly did not come up to anticipation.

RATHER too pessimistic a view seems to have been taken generally with regard to the position of this company. It is by no means defunct, but has started work again in such parts of the premises as were uninjured by the disastrous fire of February last. Meanwhile, the insurance money having been paid, the work of rebuilding is proceeding apace, more attention being paid to making the buildings fireproof, than was the case in the older mill. Naturally, the course of business has been much impeded, and orders which usually came to the firm have gone elsewhere, but the management speak hopefully of the outlook. The rumor to which some credence was given in these columns as to the retirement of Mr. Charles Coops, the managing director, from the concern, turns out to be quite unfounded, this gentleman still holding his original position. Mr. Louis Sgal also retains the chairmanship of the board of directors.

BLANDITE is a material of secret composition of which more may be heard in the future, as the reports on its utility especially for insulating purposes are decidedly favorable. The processes relating to its manufacture are now in the hands of the Lancashire Rubber Co. a company which, owing to one cause and another has not proceeded with the development of the business at the present time. There is nothing decisive to be reported of Volenite, but as regards Velvrit, the patent rights have recently been sold to the Gandy Belt Manufacturing Co., Limited, of Seacombe, Cheshire, for £8000. By this it is to be presumed that its value in the belting manufacture has been demonstrated, though I cannot say anything from personal knowledge. The Gandy business is about to be taken over by a new company, The Gandy Belt Manufacturing Co. (1901), Limited, with £150,000 capital, in equal amounts of preference and ordinary shares, and will largely extend their operations.

RUBBER INDUSTRY IN PORTUGAL.

THE report for the second business year of the Compagnie du Caoutchouc (Monopole du Portugal), at Lisbon, states that their accounts make a good showing, in spite of the unfavorable condition of the wine industry, which has been depended upon to take an important share of their output. They have obtained good prices for bicycle tires and surgical goods, which are well protected by the tariff, and they have hopes of an early increase on the duties on other lines of rubber goods. The company purpose making carriage tires, both pneumatic and solid, and are studying the construction of submarine cables. They are also planning to weave their own canvas, being now obliged to pay very high prices for such material. The factory being located three kilometers from the commercial center of Lisbon, a store has been opened in the city, for the sale of their own products and rubber goods generally. A similar store will be opened at Oporto. The report mentions that, irrespective of the quality of goods, time will be required for the people to get out of the habit of buying certain foreign rubber goods to which they have become accustomed. The company have received excellent reports on the two enterprises in which they have become interested—la Compagnie du Luabo and le Comptoir Commercial de Benguella, interested in rubber trading in Africa. The capital of the company is \$200,000, and there are reserve funds of \$33,397.

* No information is obtainable in rubber centers in the United States regarding the enterprise here named, and our correspondent fails to indicate the source of his news. It is possible that reference is made to the Chicago-Bolivian Rubber Co., mentioned elsewhere in this paper.—THE EDITOR.



SAN ANTONIO—HEAD OF STEAM NAVIGATION ON THE RIVER MADEIRA, BRAZIL.

[PHOTOGRAPHED BY MR. GEORGE RIDEHALGH FAIRBANKS.]

A RUBBER SHIPPING PORT IN BRAZIL.

THE above view shows a point at the head of steam navigation on the river Madeira, the largest tributary of the Amazon, and which serves as the chief water outlet for the republic of Bolivia. The place is known as San Antonio, and it is located in the state of Amazonas, about 500 miles from the Amazon river, into which the Madeira discharges just below Manáos. The Madeira is navigable by large steamers up to San Antonio, and but for the series of cataracts which begin at this point, such vessels might go freely up to Bolivia, and navigate the Mamoré, Beni, and other Bolivian streams which converge to form the Madeira. All navigation above San Antonio must be by means of canoes, which are unloaded as each cataract is reached, and the freight carried around the obstruction by porters. Coming down stream, the boats cannot always be controlled, and they often shoot the rapids, capsizing and losing much of their cargo. It is estimated that one quarter of the rubber sent down over the rapids is thus lost. By the way, it is intimated that, after such an upsetting, the people ashore are much more concerned about securing the rubber than in saving the lives of the crew, since the former has a much greater value from a money standpoint.

The idea long has prevailed that a railway around the falls of the Madeira would in the end prove profitable, as the railway around the falls of the Congo river, in Africa, already has done. About thirty years ago the Madeira and Mamoré railway was projected, owing to the encouragement granted by both the Brazilian and Bolivian governments to Colonel George Earl Church, an American civil engineer. A concession for building such a road was given to the Bolivian Steam Navigation Co. The first contractors were the Public Works Construction Co., relying principally upon English capital. The actual work of construction was begun finally by P. & T. Collins, of Philadelphia, in March, 1878. As reported by a United States consul at Pará, "about five miles of track were laid, and everything promised a speedy completion, when an injunction was put on the funds in England by the bondholders, who pretended to doubt the success of the enterprise, and after long litigation they obtained the money and left the men who had done the work with nothing."

According to another American consul at Pará, the loss involved to parties in the United States was about \$500,000. They

had gone down with about fifty miles of rails and some rolling stock, together with tools and provisions, and had graded twenty miles or more of roadbed, ahead of the track layers, when their financial troubles began. The interests involved were closely connected with the Reading railroad, in Pennsylvania. But there were other troubles. In the dry season in that region the river falls about thirty feet, numerous lagoons also dry up, and the locality becomes very unhealthy. Partly from this cause many of the laborers became sick, and not a few deserted the work, and it may have been from this cause that the investors became discouraged. At any event, all the material on the ground was deserted, and some of it may still be found there. Some of the buildings at the steamer landing at San Antonio are said to have been constructed in part by piling up the rails and ties intended for the railway.

In 1884 a new survey of the route was completed by order of the Brazilian government, the distance being 416 kilometers (=258½ miles), but in the absence of available capital nothing more was done at that time. More than once since that date the question of building the road has been revived, but always without any practical result. Yet without doubt the wealth of resources of Bolivia, and portions of southern Brazil now without adequate transportation facilities, would ultimately lead to a profitable traffic being developed if such a road were in existence. But in addition to the hardships which engineers, contractors, and laborers would have to undergo in constructing such a road, there exists along the route no material suitable for ballast, and to import this would involve a very heavy cost.

Meanwhile it is not probable that the port of San Antonio will ever present a more inviting appearance than it does in the picture at the head of this page. The only population which it possesses is that which is concerned with loading on an occasional steamer from Manáos or Pará the rubber which comes down over seventeen cataracts from remote Bolivia, in which country the present tendency is to try to find more convenient routes for reaching the seaboard.

A NEW and enlarged edition has been published of "The Standard Guide to Mexico," by Robert S. Barrett—a book containing much information of interest to prospective travelers in Mexico, and profusely illustrated with attractive half tones, [Modern Mexico office, St. Louis; price, 50 cents.]

SOME MEMORIES OF GOODYEAR.

BY L. OTTO P. MEYER.

THE recent appearance in this journal of Senator Dr. Traun's notes on the origin of the hard rubber industry, with some reference to the connection with its early development of Mr. L. Otto P. Meyer, once a resident of College Point, Long Island, but for many years latterly of Dresden, Germany, has led Mr. Meyer to record some of his early recollections of the trade in a letter to the Editor of THE INDIA RUBBER WORLD. While not intended for publication, the writer doubtless will pardon the presentation here of a few extracts, for the interest of our readers. Mr. Meyer writes:

"My acquaintance with India-rubber and with rubber men runs pretty far back. In March, 1852, when I was at the age of 30, the Goodyear vulcanization of hard rubber was shown to me at New Haven, Connecticut, by the son of the inventor of vulcanization, Charles Goodyear, Jr. The latter, who was at that time about 18 or 19 years old, was a perfect gentleman, and I speedily became attached to him and a lasting intimacy grew up between us. The last letter he ever wrote was written to me. At New Haven, at the same time, I made the acquaintance of Mr. William C. De Forest and of Mr. Austin G. Day, with whom I got intimate in after years.

"In the same month of March, 1852, at Trenton, New Jersey, where Daniel Webster defended Charles Goodyear's patent in the lawsuit against Horace H. Day, I saw and heard Mr. Webster on the second day of his speech in the case. I assure you he was a giant in body and mind, with the physiognomy of a lion, his forehead and his eyes uncommonly large, the latter showing the grandeur of his soul. Charles Goodyear sat at the end of the court table where, to the right, Webster stood. Mr. Goodyear's face showed all the suffering he had undergone.

"As the judge interrupted the speech by saying: 'Mr. Webster, no more proof is needed in that matter,' Webster replied: 'Then we excuse the honorable judge from any further hearing to-day.' Then all the friends of Goodyear left the courtroom rejoicing, sure of Goodyear's victory. From the courtroom many persons, including myself, went with Mr. Goodyear to his private room in the hotel, where he showed us beautiful samples of soft and hard rubber articles, of almost everything makeable of rubber. A soft rubber globe, about two or three feet in diameter, with all the countries of the world printed on it, excited much admiration. Now that was the first 'India Rubber World!'

"On that memorable day nearly all the principal men interested in the Goodyear patent sat at *table d'hote* with him, at immense tables, my friend Conrad Poppenhusen and I sitting together at one of them. Joy reigned all around, tuned high by champagne. I wonder if many are yet living who were so happy at that feast? Seeing these American rubber manufacturers, with their frank and cordial ways (which have helped so much their success in business), was really the best kind of introduction for me, to attach me to the rubber business,

"I have never ceased to feel an interest in the welfare of my American friends, and therefore I have read THE INDIA RUBBER WORLD since its commencement. Its arrival always gives me pleasure, especially when I read of the successes of old friends or of their descendants. For example, I was pleased to read, some time ago, your reference to Mr. George M. Allerton, with whose father I was intimate, and the prediction that the son, whom I knew as a very nice boy, would even surpass his father in enterprise. I have congratulated him, and see by his answer that he remembers me. That THE INDIA RUB-

BER WORLD has thus brought me in remembrance perhaps to many old friends is cheering, for nobody likes to be in lifetime entirely forgotten."

PARA RUBBER ESTATES REORGANIZED.

THERE was held in London recently a series of meetings of the shareholders of the Rubber Estates of Pará, Limited, with the result of voluntarily winding up the original company and placing its affairs in the hands of a new company, involving, by the way, the sacrifice of the common shares. The original company was formed in 1898, with a capital of £350,000 (= \$1,750,000) to take over the rubber producing estate of the Visconde de São Domingos, on the island of Marajó, near Pará—182,254 acres, with more than 1,300,000 full grown rubber trees estimated, and stated to have yielded 1,682,240 pounds of rubber in the preceding three years, worth £279,670 (= \$1,398,350). It was stated in the company's prospectus that this rubber had been produced from only 6 per cent. of the total number of trees, and that the revenue to be derived in the future from these estates was entirely a question of sending out more capital and more labor, to expand a going business. The reports made at the various meetings since held have been a continuous story of failure—delay in completing transfer of the property, trouble with labor, desertion of laborers in debt to the company, robbery of the rubber contained in the trees, etc. At the late meeting it was reported that the result of the year's operation had been the collection of 45 tons (= 100,800) pounds of rubber. At a meeting held December 17, 1900, it was announced that salaries, directors' fees, and office rent, which formerly had been at the rate of £7600 (= \$38,000) had been reduced to £4000 (= \$20,000) a year. At the same meeting was reported a loss, from the beginning, of £23,769 12s. 3d. (= \$118,849), though part of this might be considered in the light of money invested in plant. Meanwhile no dividends have been paid, and no interest on debentures. At the meeting in June last the shareholders were induced to go on, by the consideration that they own the lands, that they have acquired much valuable experience, that they have considerable plant, including a boat; that the laborers have been induced to work on the cash basis, instead of requiring advances; and that the trees are in better condition, owing to the long rest they have had. The estates manager, who was present, said that with £6000 (= \$30,000) he could pull through another year, and this amount of new capital was guaranteed. He has an idea that it would be well to begin increasing the number of trees by planting. It is interesting to note that there is no longer any enthusiasm in England over investing in Brazilian rubber estates.

AN ENEMY OF THE RUBBER TRUST.

"THE devil!" exclaimed the president of the rubber trust, crumpling up a letter and viciously thrusting it into the waste basket.

"What's up now?" asked the secretary. "Bad news?"

"No; cheerful news," answered the president disgustedly. "I've been corresponding with some idiot in Texas in regard to the purchase of his rubber plant, and in my last letter I asked him where it was situated."

"Yes," assented the secretary, "and where was it situated?"

"Why, his letter says it is located in the right hand corner of his parlor."

And the office boy had a hard time of it the remainder of the day.—*Indianapolis Sun.*

IS "PACIFIC RUBBER" A FRAUD?

THE true secret of getting rich quickly has been revealed by a New York concern, and the matter is mentioned here because the author has taken "rubber" for his text. In order to attract the attention of investors, a series of advertisements has been published, a specimen of which, selected from a New York newspaper of July 7, 1901, is reproduced here in reduced fac-simile. Persons who write for particulars are supplied with a pamphlet prospectus of the "Pacific Rubber Co.," a smaller yellow pamphlet promising **360 per cent. in Three Years**, and a long typewritten letter, in which the recipient is told: "We wish you to clearly understand how this stock is able to pay 360 per cent. in three years. We wish to thoroughly convince you that it is being done and that the collection of crude rubber is an unusually profitable and reliable pursuit," etc.

According to the prospectus: "Upon the PRESENT PRODUCTION of RUBBER from native trees, many yielding as high as 30 pounds of rubber per tree, is based the present earnings. This is not an experimental plantation, but an established property yielding rubber for many years from native trees."



Have You Invested in.
PACIFIC RUBBER?
If Not, Order At Once.
Selling now at 25 Per Cent.
of Par Value.
REDEEMABLE AT PAR IN 3 YEARS.
Dividends 1 1/2 Per Cent.
Monthly on Investment.
Shares \$2.50 Each. Par Value \$10.

Buy Right Away!
UNITED SECURITIES CO.,
66 Broadway, New York.

The accompanying small yellow pamphlet says: "The Pacific Rubber Company plantation is a vast, wild rubber grove, yielding rubber for many years. - - - The youngest tree that yields rubber gum gives one half pound. Many of our mature trees yield from 20 to 30 pounds each. - - - Rubber sells in New York for from 65 cents to \$1.10 per pound—the difference being chiefly in the care with which it is gathered, washed, and packed." These details of the profits of gathering rubber are given:

Gathering 60,000 lbs. rubber, labor, etc., 5c. per lb.....	\$3,000
Freight to N. Y., 1/2c. per lb.....	300
Total.....	\$3,300
N. Y. Price 60,000 lbs. rubber, at 80c. average.....	\$48,000
Less cost as above.....	3,300

Net Proceeds..... \$14,700

"60,000 lbs. of rubber means *only* two pounds of rubber to each acre of the PACIFIC RUBBER COMPANY'S 30,000 acre tract."

The yellow pamphlet then gives away the whole scheme. The first preferred 5 per cent. stock is offered at 25 per cent. of its face value; monthly dividends are paid at the rate of 20 per

cent. a year; on May 5, 1904, the original investment will be refunded. In other words: Shares worth \$400 are offered at \$100; then—

5 per cent. on \$400 for three years amounts to.....	\$ 60
Redemption of shares at par will yield.....	400
Total due investor.....	\$460
Deduct original investment.....	100
Profit—360 per cent ...	\$360

No details are given regarding the location of the plantation, no names of parties in Mexico or elsewhere stated to be or to have in control of it—no anything to guide the inquirer who might wish to verify the statements contained in these pamphlets. Bearing upon the statement on the title page of a copy of the prospectus mailed by the United Securities Co. on July 8, 1901—

Incorporated under the Laws of Maryland

—the following letters are pertinent:

STATE OF MARYLAND, }
Office of Secretary of State, }
Annapolis, Md., June, 24, 1901. }

Mr. H. MELVILLE WALKER, New York, N. Y.—*Dear Sir*: In reply to your letter of the 22d inst., I beg to say that this office has nothing to do with the granting of charters under Maryland law, nor are they required to file their charters here.

You are respectfully referred to the state tax commissioner, Annapolis, Md., for the information you are seeking in regard to the Pacific Rubber Co.
Respectfully,
WILFRED BATEMAN,
Secretary of State.

STATE OF MARYLAND, Treasury Department, }
Office of State Tax Commissioner. }
Annapolis, Md., July 12, 1901. }

HAWTHORNE HILL, Esq., New York, N. Y.—*Dear Sir*: Yours of 10th inst. received. The Pacific Rubber Company has not filed a copy of its charter in this office under the laws of our state. If it is a foreign corporation it is required that the company shall file a copy of its charter with the secretary of state.
Respectfully yours,

ROBERT P. GRAHAM,
State Tax Commissioner.

Besides, THE INDIA RUBBER WORLD was informed in June, by Charles G. Cano, whose name is signed to a report in the prospectus mailed on July 8, on a certain property in Mexico, that the property in question was in his hands for sale; that he at one time contracted for the sale of the same to the Pacific Rubber Co.; and that the parties failed to fulfil the terms of purchase, so that no transfer has been made; and further, that all further use of his name by them is unauthorized.

The figures given above in regard to rubber are not likely to appeal to any one having any knowledge of the rubber business. The promises made in regard to possible profits will not appeal to anybody who knows anything about investments. But there are other kinds of people in the world, and some of these may buy "Pacific Rubber." It is very kind of the authors of the prospectus, by the way, to speak of THE INDIA RUBBER WORLD as "an unquestioned authority."

A caller at THE INDIA RUBBER WORLD offices, after the above had been written, who failed to leave his name, said that he represented the United Securities Co. that the Pacific Rubber Co. owned lands and were producing rubber, and that the company possessed a Maryland charter. No questioning could elicit from him, however, any details of such a character as would admit of their being verified. The New York City Directory contains no mention of the "United Securities Co.," with "Capital and surplus \$1,012,000," and no mention of George Surbrug, president and treasurer of the "Pacific Rubber Co.," or of the "Independent Match Co.," of which he is said also to be president,

NEW GOODS AND SPECIALTIES IN RUBBER.

SOFT RUBBER HAIR CURLER.

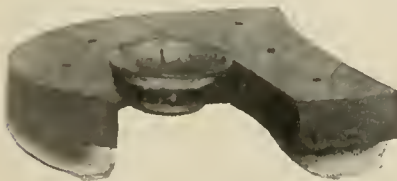
THE directions for the use of this article, patented April 23, 1901, follow: "Dampen the hair slightly; take the ends of the hair, place them in the slot and roll the hair tightly; then bend the curler over and button the knob at one end through the ring at the other. It is not necessary to have the curler pressed tightly upon the head; if the hair is rolled tightly the mere buttoning of the curler holds it firmly in place." On account of the softness of the material used, this curler is referred to as not injuring the hair or hurting the head; it may be used quickly and does away with the use of heated tongs. They are made in three



colors—black, auburn, or gray—and packed six in a box. They are made in larger sizes for hair wavers. The invention is that of E. R. Godward, of Imbercargill, New Zealand, and it has been patented in many countries. [Merkham Trading Co., No. 170 Fifth avenue, New York.]

"WALKEAZY" RUBBER HEEL.

THE feature of chief novelty in this heel is the laminated steel disk creeper, illustrated in the smaller of the two cuts herewith. The larger cut gives a sectional view of the heel with the disk creeper embedded in it. This appliance is referred to as a part of the heel, working automatically and in perfect unison, permanent and effective. It is said to double the life of the heel, and to add to the ease and comfort of the wearer, while causing no injury to the most delicate surface with which it may come in contact. To apply these heels, two or three layers are removed from the leather heel, and the surface roughened that is to come in contact with the rubber, and covered with cement. The leather is then trimmed to fit the rubber. The nails are then driven down into the rubber heel until they reach the washer, which is shown by the rubber being slightly drawn. [The Dearing-Scott Manufacturing Co., Jackson, Michigan.]



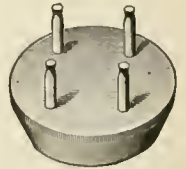
USE OF RUBBER IN PYROGRAPHIC BINDING.

ONE of the latest decorative fads, by means of which, it is said, "any woman can ruin her husband's library in a comparatively short time," is pyrography. This means burning a design into wood or leather. Special tools are made for it, and some very pretty results have been achieved by amateurs in New York city. A book which is to have a "burned in" design upon it is bound in the usual way, and when the binding is complete it is taken in hand for decorative purposes. The latter work is done by means of various and graduated platinum points, the heat of which is regulated and controlled by

an ingenious rubber bulb attachment, the pictorial embellishment being built up bit by bit until the finish and the fire etching stand out clear and sharp, a shaded monotint against a contrasting background that gives it almost the effect of high relief. It is not too much to say that without the rubber bulb and tubing employed, the art of "pyrography" could not exist.

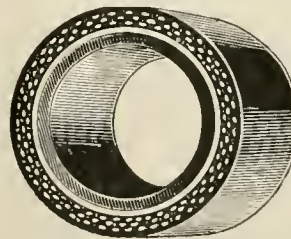
WHITCHER'S RUBBER GOLF DISKS.

AMONG the various novelties which shoe dealers may find it profitable to carry as side lines, are rubber disks, by means of which any suitable shoe may be converted readily and at small expense into a golf shoe. Such an article is the Whitcher golf disk, illustrated in the accompanying cuts, both separately and as applied to the leather sole. These disks are referred to as being made of an especially tough and durable rubber, and capable of withstanding any amount of hard wear. They are suitable not only for golf, but for tennis, base ball, and mountain climbing, and they have been used also for ordinary wear, in place of rubber heels and soles. [F. W. Whitcher & Co., No. 14 Albany street, Boston.]



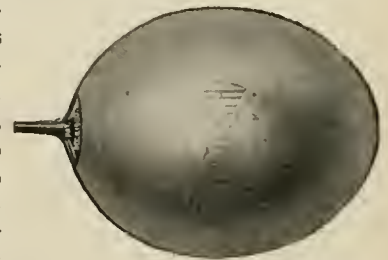
"BUCKSKIN BRAND" GARDEN HOSE.

THIS new article is a double tube hose for hard service, the name for which has been chosen to suggest its qualities of tenacity and endurance. In construction, it is a high grade, well cured inner tube, surrounded by a layer of white self-healing rubber of best quality, which in the event of abrasion of the inner tube, prevents the water from getting through to the surrounding plies of duck, and hence its consequent absorption, which in ordinary hose means "the beginning of the end." This brand is made in $\frac{1}{2}$ inch and $\frac{3}{4}$ inch, three ply. Dealers are invited to secure a few sections for trial. [Quaker City Rubber Co.—C. A. Daniel—No. 409 Market street, Philadelphia.]



NEW PURE GUM BLADDERS.

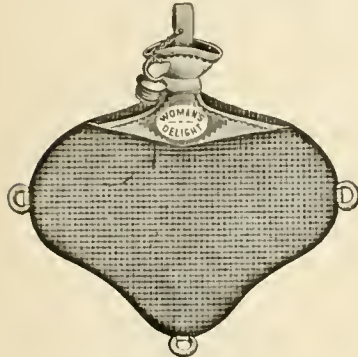
UNDER a patent issued recently there is being produced a line of seamless rubber striking bag and football bladders, which is meeting with much commendation. Being seamless there is removed the objectionable feature of the old style vulcanized seams, which, besides a liability to tear apart, often tend to give the bladder an irregular shape. If the bladder will not blow up in perfect shape, the striking bag or football naturally will be uneven in form. Besides, in the absence of restraining seams, the elasticity of these bladders is greater. This new bladder may be inflated to over four times its normal size. For striking bags, the "Pure Gum" bladder is made both in the shape shown in the illustration, and pear shaped. The stem is also of pure



gum, enabling it to stretch seven times its length. The control of this article has been secured by the extensive sporting goods firm of P. Goldsmith's Sons, Cincinnati, Ohio.

"WOMEN'S DELIGHT" HOT WATER BAG.

THE shape of this new hot water bag has been designed especially with a view to making it fit the abdomen, in which



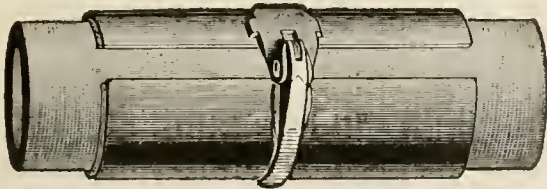
PATENTED MAR. 26 AND MAY 7, 1901.

respect the inventor feels that success has been attained. This shape has met with much favor from physicians and nurses, as well as from women who have used it. Each bag is provided with a flannel cover, which can readily be removed when soiled, and re-

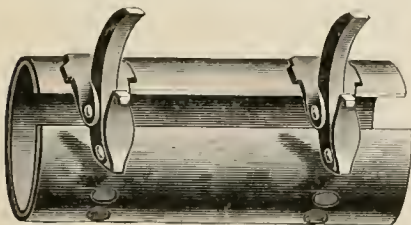
placed after being laundered. The rings on the sides of the bag are useful when it is desired to secure the bag to the body with a tape or bandage. An additional advantage is that the stopper on this bag cannot get lost, being connected to the handle of the bag by a neat nickel plated chain. Besides, the top of the bag can be folded so as to keep the stopper from being in the way, when applying the bag. The bag may be applied with equal facility to any part of the body, being adapted especially for use as a hand or footwarmer. It will also serve to hold poultices in place and keep them warm, while a nursing bottle can be kept at any desired temperature by filling the bag with water at the proper heat and slipping the bottle inside the flannel cover. Two patents on this water bag, issued recently to Meinecke & Co., Nos. 48-50 Park place, New York, have been protected by the Patent Title and Guarantee Co. (New York) to prevent infringements. The sole manufacturers are the Davol Rubber Co., Providence, Rhode Island.

BENNETT'S PATENT HOSE PATCH.

THIS device is referred to as being capable of being applied very quickly, so that a leak in the hose may be stopped effect-



ually and at once. It is applicable for garden hose, and, in larger sizes, for fire hose, brewers' hose, and air-brake hose. It is also made as a "pipe patch," for instant use in the case of a

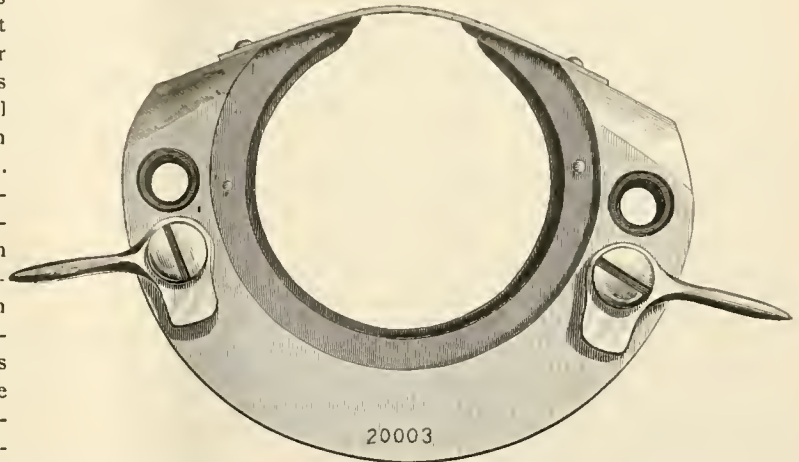


burst steam or water pipe. Besides being adapted to speedy use, it is simple in construction and requires no special skill in putting it in place. It will be necessary, in order-

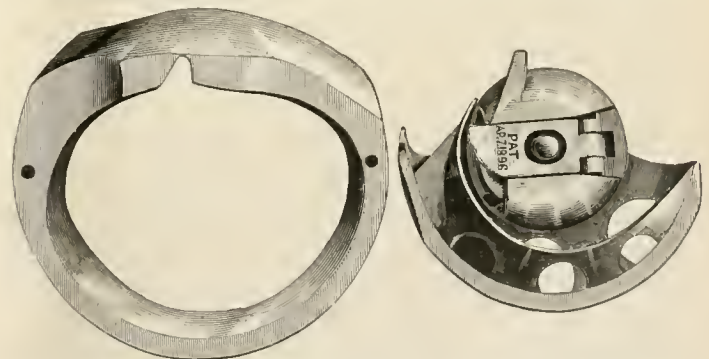
ing, to specify the size required, and whether for hose or pipe. For 25 cents a single clamp for a garden hose will be sent prepaid. [Bennett & Co., No. 127 Duane street, New York.]

MACHINE FOR MACKINTOSH SEWING.

THE sewing of rubber-coated fabrics, single or double texture, is a problem that has vexed the soul of many a factory superintendent. If the goods have been cured either by solarization or by heat, the work is easier, but even then the machine must be built especially for that work. For sewing green or unvulcanized coatings many makes of machines—in-



deed, nearly all—are totally unfitted. The rubber follows the needle, works into the shuttle, and so effectively gums things up that in a very short time it is impossible to work. To obviate this a sectional shutter race, which is here illustrated, has been designed. Briefly described, *A* is the race, with two simple locking bars that can be operated without trouble or loss of



time. *B* is the locking ring, and *C* the shuttle and bobbin case having a hinged flap on its handle. To remove the shuttle the locking bars are pressed down and locking ring, shuttle, and bobbin case with bobbin are taken out with one motion. The replacement is just as simple and as quick. The machine to which this attachment belongs is known as No. 31-16 and is manufactured by the Singer Manufacturing Co., New York. A cut of this machine complete is shown in the company's advertisement elsewhere in this paper.

In an article on "The Philippine Carriage Market" in *The Hub* (New York) for April, the writer says: "Solid tires are also in request here, and it may surprise some to have it announced that a number of the carriage people on Panay island have located Gutta-percha trees and are securing gum rubber from these for the making of tires, which they place on wheels." From the remainder of this article, it would seem to be from the same pen as a paper on "Rubber Making in the Philippines," mentioned in *THE INDIA RUBBER WORLD* for January last [page 101].

COUNT WALDERSEE'S ASBESTOS HOUSE.

IT probably will be remembered by our readers that at the time of the destruction by fire of the imperial Chinese palace at Peking, it was generally reported that the asbestos house which had been sent to China for the Field Marshal Count Waldersee had also been burned. Such a report was, of course, improbable, but the facts have not, until now, become available. It appears that the asbestos house was not burned, but was crushed by falling timbers from the neighboring Chinese palace, which, built of wood, was entirely destroyed. Field Marshal Count Waldersee has expressed himself on the subject in a private letter to Mr. Albert Calmon, managing director of the asbestos works at Hamburg, which company has invented the asbestos slate and built the asbestos house referred to. The letter follows, together with an official report:

To the Managing Director, Asbestos and Rubber Works, Alfred Calmon, Ltd.,
Hamburg:

SIR: I beg you to accept my best thanks for your kind offer to send out another asbestos house, but, having regard to the length of time that the voyage would require, and to the fact that I am not likely to remain in China very much longer, it would appear advisable to give up the idea. I take the liberty of inclosing herewith a report upon the catastrophe here from which you will see that the house was destined to perish in the flames. It certainly deserved a better fate.

I remain, etc.,
Pekin, May 4, 1901.

WALDERSEE,
Field Marshal.

REPORT.

THE asbestos house stood in a courtyard surrounded on three sides by large buildings constructed of wood, at a distance from them of about nine yards. The courtyard was covered over with straw matting, which was spread over a wooden framework. When the fire broke out the three surrounding houses were quickly enveloped in flames and of course the straw matting caught fire instantaneously. In five minutes everything stood in flames. Large pieces of the burning straw matting fell on to the house itself, and all round it. Shortly after that a huge burning log crashed right through the house. The three sides and the roof were therefore enveloped in flames and it was quite impossible that the house could withstand such usage. After perhaps ten minutes the wooden framework caught fire and the furniture in the interior began to burn. After almost half an hour the whole house collapsed. The asbestos sheets had entirely resisted the action of the flames, but they naturally were broken up when the structure collapsed. Of the furniture and fittings next to nothing could be saved, and all my personal property which was in the house shared the same fate.

At the time the fire broke out I lay in bed. When I had dressed the main entrance was rendered impassable by burning straw and the terrific heat of the burning building opposite to it, so that I was obliged to climb out of one of the windows on the narrow side of the house. The space of time between the breaking out of the fire and my escape from the house could scarcely have exceeded five minutes and it was high time for me to leave the place.

It affords me particular satisfaction to be able to state that the asbestos house, in which I lived from the commencement of December, has proved a great success, and has been extremely useful to me. In the coldest time during the winter it was easily warmed and effectually kept out the wind and dust which circulates through all Chinese houses and renders them almost uninhabitable. The inside fittings and furniture proved practical and altogether suited to my requirements. In my

opinion, which I believe is shared by all who have seen the house, it has served its purpose extremely well and can be recommended where it is desired to erect dwellings speedily which are healthy and suitable for any kind of climate.

In addition to the fireproof qualities of asbestos, it has other advantages with which the public are perhaps less familiar. It may be rendered water and weather proof without lessening its fire resisting capacity, and especially since the introduction of the asbestos slates referred to above. Such a house as was constructed for the German field marshal offers protection against either heat or cold. But for the haste with which the order had to be filled, the frame work would have been constructed of iron, but in the circumstances it was necessary to use wood instead.

SOME WANTS OF THE RUBBER TRADE.

[176] FROM a jobbing house: "We would like you to advise us, if possible, who makes the rubber toothbrush rack, designed to be fastened on the wall."

[177] "Can you inform us where to get hypo sulphite of lead, and also where we can procure blue lead?"

[178] From Canada we have received a request for the names of five or six firms in the United States who make rubber clothing.

[179] A rubber jobbing firm write to know where "Cooper's hose mender" may be obtained.

[180] A request has been received for the address of the manufacturer of "Electric Flake."

[181] "I desire to know where I can get rubber balls, $\frac{3}{4}$ inch in diameter, variously colored—red, white, red, black, and yellow—solid and quite hard, but not so much that they will lose their elasticity. I will order by the thousand, if satisfied."

[182] "Can you inform us of some rubber factory that will grind for us hard rubber into dust, in lots say of 500 pounds at a time?"

[183] "If you know of any one who has an equipment for the making of hose, which you think they wish to dispose of, we would be very glad to have you advise us."

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED JUNE 4, 1901.

NO. 675,616. Coupling for rubber tire clamps. Hugh R. Auld, Boston, Massachusetts.

675,619. Cushion tread for boots or shoes. Mellen Bray, Newton, Massachusetts.

675,696. Means for securing elastic tires to wheels. William F. Williams, London, England.

675,697. Elastic tire. William F. Williams, London, England.

675,793. Cushioned heel. Henry F. Rooney, Randolph, Massachusetts, assignor to Mellen Bray, trustee, Newton, Massachusetts.

ISSUED JUNE 11, 1901.

675,897. Water bag syringe. William D. Martin, Warsaw, New York.

675,913. Sectional rubber tire. George W. White, Huntsville, Alabama.

676,086. Rubber tread horseshoe. Esta F. Culbertson, Indianapolis, Indiana.

676,095. Composition of matter. Nelson B. Mayer, Newark, New Jersey, assignor to the American Rubber Filling Co., New York city.

676,269. Return flow syringe. Denwood N. L. Newbury, New York city.

676,368. Rubber tire. John Patrick, Chicago, Illinois.

676,395. Pneumatic tire. Mark A. Heath, Providence, Rhode Island, assignor to Mark A. Heath, Jr., and Charles Heath, same place.

DESIGN PATENT.

34,622. Water receptacle. Christian William Meinecke, Jersey City, New Jersey. June 4, 1901.

TRADE MARK.

36,504. Elastic Webs, Suspenders and Dress-Bindings. The H. B. Claflin Co., New York city. June 4, 1901.

ISSUED JUNE 18, 1901.

676,506. Golf ball. Richard D. Knight and Walter A. Peck, Providence, Rhode Island.

676,562. Elastic wheel tire. Jens H. Langgaard, Liverpool, England.

676,570. Solid rubber vehicle tire. Frank A. Seiberling, Akron, Ohio.

676,646. Rubber tire machine. Samuel W. Collins, Indianapolis, Indiana, assignor by mesne assignments to the Consolidated Rubber Tire Co.

676,733. Inflatable Tire. Benton V. Canfield, Indianapolis, Indiana.

ISSUED JUNE 25, 1901.

676,894. Soft tread horseshoe. Joseph C. Higgins, Boundbrook New Jersey.

677,050. Exercising machine. Alexander A. Whiteley, Chicago, Illinois.

677,091. Vaginal syringe. Hartland Law and Herbert E. Law, San Francisco, California.

677,290. Pneumatic tire. Pardon W. Tillinghast, Edgewood, Rhode Island.

ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

10,934. T. C. Hughes, Redditch. Puncture proof pneumatic cycle tires. May 28.

10,966. James Seton Prentice and Arthur Lewis Browne, 22, Southampton buildings, Chancery lane, London. Golf balls. May 28.

11,032. Frank Reddaway, Manchester. Rubber covered rollers for expressing moisture from fibrous or woven material. May 29.

11,096. James Graham and Robert Rattray Tatlock, Glasgow. Automatic self-inflating life belt. May 30.

11,102. John Beggs, Manchester. Pneumatic tire. May 30.

11,149. George Edward Heyl Dia and The Dialene Rubber Co., Limited, Liverpool. Improvements in desulphurizing vulcanized rubber. May 30.

11,238. Edmund Edwards, 65, Chancery lane, London. Improvements in rubber coated materials and in the process for treating the same. [Oxylin-Werke A. G., Leipzig, Germany.] May 31.

11,421. Wilhelm Lexauer, 111, Hatton garden, London. Improvements in cycle tires. June 4.

11,427. Mellen Bray, 45, Southampton buildings, Chancery lane, London. Cushion treads for boots and shoes. June 4.

11,428. Henry Francis Rooney, 45, Southampton buildings, Chancery lane, London. Cushioned heels for boots and shoes. June 4.

11,446. Hermann Gustav Berstorff and Eduard Adolf Herrmann Meyer, Liverpool. Improved process for making rubber and balls and apparatus therefor. June 4.

11,494. Frank Reddaway, Manchester. Pneumatic tires for heavy vehicles. June 5.

11,507. William Frederick Williams, 53, Chancery lane, London. Improvements in, and in apparatus for, the manufacture of elastic tires. June 5.

11,559. Samuel Robinson, Southport. Robinson's leather and rubber combined tire. June 6.

11,771. Emma Hill Leonard, 52, Lower Sloane street, London. Resilient tire for cycles or other vehicles. June 8.

11,784. Alexander Woodcock MacKenzie, 47, Lincoln's Inn fields, London. Apparatus for inflating pneumatic tires. June 8.

11,798. James Gibson Baker, Liverpool. Rubber capsule, with cork attached, for bottles. June 10.

11,875. William Olliff and Matthew Morris, Newcastle-on-Tyne. Puncture preventer for tires. June 11.

11,887. John Sidney Crowley, Manchester. Improved captive golf ball. June 11.

11,895. Frederick Moore, Birmingham. Pneumatic tire. June 11.

11,901. John Webster, 8, Quality court, Chancery lane, London. Pneumatic tire for cycles and vehicles. June 11.

11,909. William David Davies, 23, Coleman street, London. Non-puncturable pneumatic tires. June 11.

11,924. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Improvements in vehicle tires. [Lemuel E. Allen and William J. Poyser, United States.] June 11.

11,956. Albert McLaren, Oldham. Clothing and leather calendering machine. June 12.

11,966. Alexander Black, Glasgow. Pneumatic tire for cycles and vehicles. June 12.

12,078. John Dee Shapland, 33, Chancery lane, London. Improvements in elastic bandages, stockings, and the like appliances, for varicose veins. June 13.

12,124. Alice Hefford, 34, Belvoir street, Leicester. Tires for cycles. June 14.

12,149. John Albert Johnson, Kingston-on-Thames. Improvements in means for adjusting tires on wheel rims. June 14.

12,174. George Frederick Newman, 53, Chancery lane, London. Compositions for rendering garments waterproof. June 14.

12,175. George Balls, Jr., and George Albert Keep, 156, Brixton Hill, London. Horseshoe pad. June 14.

12,211. Hans Peter Rasmussen and William Hagerty, 4, South street, Finsbury, London. Pneumatic hubs for cycles. June 14.

12,247. Alfred Delafraze, 37, Chancery lane, London. Tire covers for cycles and motor vehicles. June 15.

12,368. Edward Henry Seddon, Manchester. Pneumatic tires. June 18.

12,453. The Albany Manufacturing Co. and Frederick Lamplough, 23, Southampton buildings, Chancery lane, London. Tire for motor cars and other vehicles. June 18.

12,487. John Justice Southam, Manchester. Improvements in the manufacture of woven hose pipes and tubes. June 19.

12,550. William Houston. Pneumatic saddles for horses. June 20.

12,631. Goodman Charles Mandleberg, Henry Lesser Rothband, and Samuel Lawrence Mandleberg, Manchester. Improvements in waterproof overcoats. June 20.

12,687. Robert Thompson and the British Steam Traction Syndicate, Limited, 11, Southampton buildings, Chancery lane, London. Improved material for closing punctures in tires. June 21.

12,715. Francis Gwyn Griffith, 99, Cannon street, London. Pneumatic tires for vehicles. June 21.

12,716. Herbert William Rayment, 99, Cannon street, London. Pneumatic tires for vehicles. June 21.

12,726. Jesse Kirkman, Manchester. Improvements in steam packing. June 22.

PATENTS GRANTED.—APPLICATIONS OF 1900.

2780. Method of attaching rubber tire to rim. Burgess, A., 6, Bessborough gardens, Westminster, London. February 12, 1901.

2836. Rubber vehicle tire. Edinburgh Autocar Co. and Outhwaite, T. R., and Henderson, K., Edinburgh. February 13, 1901.

2895. Rubber soles and heels. Feist, A., Nordhausen, Prussia, Germany. February 13, 1901.

3311. Pneumatic tire. Pringle, J., Kinning Park, Lanarkshire. February 20, 1901.

3304. Cork and rubber tire. Appleyard, G., R., Warley, near Halifax, Yorkshire, February 20, 1901.

3346. Rubber tire and method of attaching. Shepherd, J., Davenport, Cheshire. February 20, 1901.

3488. Erasers. Hyde, R., and Bethune, J., Sheffield, Yorkshire. February 22, 1901.

3546. Rubber tires. Kitson, A., No. 213 West Upsal street, Germantown, Philadelphia, United States. February 22, 1901.

3755. Rubber tire. Holme, T., Dursley, Gloucestershire [Siversleth, H. C. P.; 42, Kronprinsessestegade, Copenhagen, Denmark.] February 27, 1901.

3826. Waterproof garments. Meyenburg, A., 61, Langestrass, Frankfurt-on-Main, Germany. February 27, 1901.

3827. Cover for pneumatic tire. Gautier, C., 130, rue du Bois, Levallois-Perret, France. February 27, 1901.

3851. Pneumatic tire. Swain Patents Syndicate and Swain, W., Pneumatic Tyre Works, Horwich, near Bolton, Lancashire. February 28, 1901.

3858. Outer cover for tire. Summers, J., Newcastle-on-Tyne. February 28, 1901.

3989. Outer cover for pneumatic tire. Buchignani, Harvy, Lexington, Kentucky, United States. March 1, 1901.

4120. Vehicle wheels. Dupont, A., 6, Christopher street, Roemond, Holland. March 3, 1901.

4128. Method of attaching pneumatic tires to rim. Paull, W. H., 4, Strensam road, Birmingham. March 5, 1901.



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Steam Hose,
Air Hose,
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. . . . CLEVELAND, OHIO.

MANY RUBBER SPECIES IN BOLIVIA.

SIR MARTIN CONWAY, in his latest work, "In the Bolivian Andes," ascribed the rubber of southwestern Bolivia—known commercially as Mollendo rubber—to the tree *Hevea lutea*. Sir Martin having previously stated, in a lecture before the Society of Arts in London, his impression that the rubber tree of this region was the *Hevea Brasiliensis*, some interest has been felt as to the cause of the change in his conclusion. On this point he has written to us as follows:

TO THE EDITOR OF THE INDIA RUBBER WORLD: *Hevea lutea* is, I believe, the chief form of *Hevea* on the eastern slope of the Andes. My authority is the collection in the Kew herbarium, which has specimens of *Hevea lutea* from that district, but none of *H. Brasiliensis* except from regions further east and lower down. My own specimens were only leaves, and insufficient to determine the species.

My information is to the effect that rubber is extracted, along the eastern slope and foothills of the Cordillera Real, in Bolivia, from some twelve different kinds of trees. What are they? No one knows. I have just sent a properly equipped botanist to spend a year investigating the matter from a purely scientific point of view, and I shall present a complete set of his collected specimens to the New York herbarium. We shall then know something definite.

I have received specimens of yet another kind of *Hevea* from the southeast of Bolivia, but the specimens are not good enough for complete description. There doubtless exist heaps of kinds of rubbers in the Amazon basin about which we know nothing. MARTIN CONWAY.

Red House, Hornton Street, London, W., July 3, 1901.

The exploration work begun by Sir Martin Conway in Bolivia, referred to already in THE INDIA RUBBER WORLD, is to be continued by a party organized and equipped by this gentleman, and which left London on June 26, to be absent a year. At New York the party were joined by the botanist mentioned in Sir Martin's letter, Mr. Robert S. Williams, one of the senior aids of the New York Botanical Garden. It is to this institution, by the way, that the specimens collected are to be sent. The New York Botanical Garden of late has developed into an establishment of much importance, and its herbarium bids fair soon to rank with those at Kew and Berlin. There is now being arranged a collection of over 3000 fine specimens obtained for the garden in Colombia, and which is described as one of the most important collections of herbarium material that ever came out of tropical America. The scientific directors are much interested in whatever pertains to a fuller knowledge of rubber producing species. By the way, there is now at the garden a rubber plant grown from a seed of an undetermined species obtained from Colombia in the collection mentioned above.

Sir Martin Conway—born 1856 at Rochester, England, the son of Canon Conway—though most widely known for his mountain climbing exploits in various countries, and his books in relation to them, has devoted his more serious work to the history of art. He has written several books in this field, and is chairman of the Society of Authors in England. He is Slade professor of fine art in King's college, Cambridge University, and professor of art in University college, Liverpool. He married, we believe, an American lady.

The rate of increase in the exports of Bolivian rubber *via* Mollendo, on the Pacific coast, recorded from time to time in THE INDIA RUBBER WORLD, seems not to have maintained latterly. Our last return published was for the fiscal year 1898-99—1,037,127 pounds, of which 793,418 pounds appear to have been shipped in the first half of the period. There is now at hand a return for the calendar year 1900, as follows: Shipped to Liverpool, 314,162 pounds; to London, 22,752; to Hamburg,

240,033; to Havre, 37,816; to New York, 1751; total, 616,514 pounds.

CHICAGO-BOLIVIAN RUBBER CO.

AT a recent meeting of the stockholders of this company, of which frequent mention has been made in the INDIA RUBBER WORLD, the following officers were elected: J. Jackson Todd, president; Arthur W. Stedman (of George A. Alden & Co.), vice president and general manager; A. L. Dewar, secretary and treasurer. These, together with the following, constitute the board of directors: Robert D. Evans (late president of the United States Rubber Co.), Albert M. Crane, Charles E. Yerkes, W. J. Hylands, and George E. West. The company have acquired title to about 2,500,000 acres of land in Bolivia, comprising three haciendas on which rubber has been successfully worked, and on which there is now a force of rubber gatherers. The general location is on the rivers Kaka and upper Beni, on the headwaters of the Amazon. In the past some trouble has been experienced because the natives were indifferent and hard to control. The company, however, imported a few Italians, and the natives were soon awakened to the fact that their opportunity to work might be taken away entirely, and since then they have behaved well. The rubber gathering is under the general charge of George Merrit, who is superintendent and who has headquarters at Issappuri. Mr. Merrit, by the way, is a most competent man for such business, both naturally and through his ten years residence in this part of Bolivia, during a good part of which time he was manager of the "Tres Amigos" rubber estate. He has excellent assistants in Messrs. Skifford, assistant manager, Messrs. Newton, Stokel, and Fuller. Within a short time Mr. Arthur L. Jackson, who has had an excellent rubber education in Pará and Manáos, will start for Bolivia to make his headquarters at La Paz, where he will work in the interests of the company. The rubber from these estates, by the way, has in the past come by way of the falls of Madeira and down the Amazon. It will, however, now be carried over the mountains and shipped from Mollendo, on the Pacific coast. The rubber, by the way, is a very fine high grade of Pará rubber, known as "knapsack biscuit," and the company hope within another year to ship 1,000,000 pounds annually. It is interesting to note that the company have secured exclusive rights of the waterway from the estate to the foot of the mountain, which greatly enhances the value of their proposition. Speaking of the proposition as a whole, the stock issued consisted of \$250,000 in 7 per cent. preferred stock and \$1,250,000 common stock, all of which has been taken up, with the exception of \$125,000 which is to remain in the treasury.

VULCANITE MOUTHPIECES.—A tobacconist talking with a New York *Sun* reporter, said: "Vulcanite makes a good mouthpiece, but not American vulcanite. In England a fine quality of vulcanite is made especially for pipe use. It is particularly hard and takes a beautiful polish. Then the vulcanite mouthpieces over there are all hand turned, and here most of them are machine made. Of course, there are exceptions. I'm speaking of generalities. By the way, while we are talking of mouthpieces, the kind used on a pipe should depend upon the individual. A man with soft or tender teeth has no business using vulcanite or amber. He needs a horn mouthpiece. It is softer, and the pipe will wear away instead of the teeth. Using a pipe does wear away the teeth, you know."—An INDIA RUBBER WORLD representative found a hard rubber concern doing a considerable business in vulcanite pipe goods, and was assured that they were exporting such goods to England. As for the *Sun's* article, it should have mentioned Scotland, since vulcanite is not produced in England.

FIRE DEPARTMENT SUPPLIES IN NEW YORK.

THE fire commissioner of New York, John J. Scannell, on June 28, was indicted by the grand jury, after an investigation extending over ten days, into the methods pursued in purchasing fire hose and other supplies for the fire department of New York city. There were three indictments. Commissioner Scannell is charged in two with wilful neglect of duty in evading the law and with defrauding the city. He is charged in the third with conspiring with William L. Marks to evade the law and defraud the city in the purchase of fire department supplies through Marks. Marks is charged with conspiracy to demand and obtain money from firms engaged in manufacturing fire department supplies. The indictments allege that the crimes charged were committed on January 5, 1898, and continuously thereafter until the finding of the indictments. Several months ago the city comptroller, Bird S. Coler, through whose office all bills against the city must pass, expressed the belief that irregularities existed in regard to the supplying of fire hose and the like, since which time he has investigated the matter in detail, with the result that on June 19 the facts were placed by the district attorney before the grand jury. Representatives of the various supply firms were subpoenaed to appear, and Messrs. Scannell and Marks given an opportunity to make statements, which they did. The supply men, including hose manufacturers, testified that, under the present city administration, they had been unable to sell any goods except through William L. Marks as agent; that they charged their regular prices to Marks, who collected a higher price on each article from the fire department; and that they would have been pleased to sell to the city at the prices charged to Marks. The grand jury evidently was impressed with the idea that the handsome profits shown to have been made by Agent Marks were divided with the head of the fire department. Messrs. Scannell and Marks were placed under bonds to await trial, the date for which has not yet been fixed. Marks, by the way, does business as the Powers Manufacturing and Supply Co., at No. 302 Broadway, New York.

A GERMAN FACTORY FESTIVAL.

THERE was a celebration recently at the works of the Berlin-Frankfort India Rubber Co. which proved most enjoyable to all who participated. The occasion was the presentation of medals of honor awarded by the German emperor, and bestowed by Herr Hartmann, a member of the imperial trades council, to two foremen in the factory, Herrn Ludwig and Gebert, who have each been employed there continuously for 35 years. After the address by the imperial councillor, listened to by entire factory and office *personnel*, a response was made, in behalf of the medalists and of the whole establishment, by Director Emil Spannagel, who closed by offering a "Hoch" to the emperor, which was responded to heartily by all present. There was then a presentation of gifts by the management to the two decorated gentlemen and also to Herr Schepke, the chief machinist, who has been with the company for 30 years. An address made by a representative of the employés, Herr Vassel, who paid a well received tribute to Director Spannagel and his associates, who, he said, deem it of great importance to give no cause for a change in the list of employés, thereby assuring the loyalty of the latter. He mentioned that Herrn Bonatz, of the office force, and Müller, foreman of the proofing department, had each recently completed 25 years of employment, and had been granted an extended vacation, with pay. Herr Hagelsieb, of the office force, has been with the com-

pany for 34 years. The official program having been concluded the employés devoted the evening to recreation, including boat parties on the river Spree, after which the party was photographed in a group.

EXPORTS OF AMERICAN RUBBER GOODS.

THE total exports from the United States of goods classed as "Manufactures of India-rubber" during the first eleven months of the fiscal year beginning July 1, 1900, up to the end of May, were:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-April....	\$418,085	\$662,971	\$1,432,124	\$2,543,180
May, 1901....	60,788	21,285	152,740	234,813
Total.....	\$508,873	\$684,256	\$1,584,864	\$2,777,993
1899-1900..	492,472	372,262	1,258,515	2,123,249
1898-99....	(a)	229,892	1,362,088	1,591,980

(a) Not separately reported prior to July 1, 1899.

The number of pairs of rubber footwear exported was 1,396,597, against 673,961 pairs for the same period last year, and 425,574 pairs in eleven months of 1898-99.

Exports of reclaimed rubber during the same months were in value as follows:

1898-99.	1899-1900.	1900-01.
\$343,261	\$445,766	\$386,396

DISTRIBUTION OF RUBBER EXPORTS.

THE manufactures of India-rubber exported from the port of New York during the four weeks ended June 25, 1901, were of the value given below and were destined as follows:

Great Britain..\$30,729	Central Amer. 907	Philippines... 911
Germany.... 11,064	Cuba..... 6,855	Australia.... 4,956
France..... 3,580	British W. Ind. 833	New Zealand.. 5,620
Belgium..... 240	Danish W. Ind. 20	Tasmania.... 103
Holland..... 845	Haiti..... 74	China..... 879
Switzerland... 142	San Domingo. 318	Hongkong... 1,550
Italy..... 90	Argentina.... 12	Japan..... 3,951
Austria..... 1,174	British Guiana. 12	British E. Ind. 247
Hungary..... 302	Brazil..... 1,192	British Africa. 310
Norway..... 335	Chile..... 664	Egypt..... 33
Sweden..... 4,298	Ecuador..... 67	
Denmark..... 2,123	Colombia.... 1,161	Total... \$92,157
Russia..... 122	Peru..... 528	May 1-28.... 70,216
Newfoundland. 368	Dutch Guiana. 18	April 3-30... 86,060
Mexico..... 5,059	Venezuela.... 505	

Some other exports during the same period were:

India-rubber Cement.—To Hamburg (40 barrels), \$1000; Antwerp \$301; Cuba \$45; total \$1346.

India-rubber Thread.—To Hamburg \$2591; Rotterdam \$500; Marseilles \$150; Havre \$1320; Antwerp \$2952; total \$7513.

Dress Shields.—To Great Britain \$14,671; Germany \$7345; Other Europe \$1200; Australia \$1588; Other countries \$74; total \$24,878.

Clothes Wringers.—To Great Britain \$4001; Germany \$2248; Australia \$836; New Zealand \$1567; Denmark \$708; Belgium \$1806; Holland \$390; Other countries \$46; total \$11,602.

Reclaimed Rubber.—To Liverpool \$11,911; Glasgow \$6117; Leith \$4863; Havre \$3147; Hamburg \$2600; Genoa \$1178; total \$29,816.

RUBBER goods, as a rule, do not seem to be affected by the recent changes in the freight classification on western railways, which will result practically in an increase in rates on many kinds of merchandise. One change, however, does relate to rubber scrap. Instead of a minimum weight of 24,000 pounds, as hitherto, 30,000 pounds is now named as the minimum for a carload, as a basis for charging freight.

ABOUT half the police force in Chicago, according to a local newspaper, now wear rubber heels. The same paper says that restaurant keepers encourage waiters to wear rubber heels, because of their being enabled to walk more quietly.

PROSPECTIVE RUBBER PRICES.

IN a circular issued July 11, from Liverpool, Marius & Lévy say that as matters stand in Brazil, the rubber outlook is a strong one. The crop for the year ended June 30 amounted to 27,650 tons—an increase over the preceding year of 3.75 per cent., which increase was mostly in Caucho. The crop figures for four years have been :

	1897-98.	1898-99.	1899-1900.	1900-01.
Tons.....	22,210	25,345	26,660	27,650

The lower Amazon output has declined; the Upriver production was normal; the Caucho yield was on a large scale, compared with former years. The circular says:

"We consider the actual crop now ending as a 'record' of production, which is the natural consequence of the 'over trading' and 'booming time' which occurred two years ago, when everything was in favor of the rubber production, viz.: Low rate of exchange, down to 6*d.* per milreis; high prices of raw rubber on the consuming markets, reaching up to 4*s.* 9*d.* for fine Pará. - - -

"As there is a general increase in the consumption every year, we are drawn to the conclusion that higher prices will be seen very shortly for the raw material of all grades, and especially for the Brazilian crop."

The circular continues:

"There is a divergence of opinions, but the facts are positive. Some rivers which we could name had their *aviamentos* (shipments of goods) cut down by 50 and sometimes 70 per cent.; others like Rio Acre, a great center of production, had a similar reduction owing to the state of revolution which always exists there, and which restricts trade, business becoming too risky. Numbers of 'rubber farms' have been abandoned, and numbers of rubber gatherers from the states of Ceará, Parahyba, Rio Grande do Norte, etc., have returned to their native countries without any intention of returning to the Amazon river; from private information we learn that 60,000 to 70,000 rubber gatherers of these states have not returned for the gathering.

"Many people say that the financial crisis will force the traders to push the rubber gatherers to increase the production of rubber. Such theories are entertained by people who have never been on the Amazon river or Pará islands; if they had been there, they would judge that a *seringueiro* (rubber gatherer) cannot double the gathering for two reasons:

(a) It is materially impossible.

(b) He might try to increase on a small scale if it pays.

But as a matter of fact it does not pay at all; he is, of course, not willing to increase his work, the compensation being negative.

"As a consequence of this state of affairs, the number of exporters from Brazil will be considerably reduced, and there is every possibility of the formation of a 'combine' to keep rubber at high prices, aided in this direction by the shortage of crop which we estimate at 20 per cent. at the very least, and this discrepancy of 3000 to 4000 tons will be confined to Upriver and Island, 80 per cent. for Upriver, 20 per cent. for Island. Hard cured, medium, and coarse are going to be very scarce, and so far, no Congo sorts can replace fine Pará.

"Despite all the manipulation of 'bears' and 'bulls,' the natural law of supply and demand will prevail. Trade is brisk both in the United States and Europe, hence the demand will be a strong one. We are on the eve of 'big surprises,' and our conviction is, that a price of 4*s.* 6*d.* for fine Pará will be seen before the year ends, and of course all other grades will rise in proportion."

AN ENGLISH REPORT VIA GERMANY.

ON the principle that "one must go from home to get the news," may be explained the appearance in the *Gummi-Zeitung* (Dresden), of June 21, of a report from Liverpool of matters pertaining to the rubber import trade in the United States which have not been published elsewhere. The Liverpool report states that on account of the "battle waged" between certain American interests, "it has been impossible to close transactions of any importance during the past few days." The prices quoted by one New York house, named by our contemporary, are said "to make it difficult to understand its *modus operandi*, which will prevent the company from obtaining any quantity of rubber in Pará, even though it should succeed in forcing the prices down there." But this latter is out of the question, according to this Liverpool correspondent, "because the harvest is nearly ended and receipts of Upriver will consequently be small in the near future."

"A few months ago it was expected that the agents of the New York company were inclined to 'bull' the market, calculating on higher prices, but evidently they have changed their tactics in our [Liverpool] market, endeavoring to force down the prices. The leading firms in Liverpool of course are not influenced by this movement, being convinced that the 'bear' tactics can be of but short duration, and as all conditions justify the belief that a little later on better prices will prevail, it is not to be wondered at that large holders await the time when business can be transacted on a clean basis, without suffering large losses, such as several parties are suffering now."

The letter, continuing, says that all reports from Pará and Manáos seem to agree as to future prospects. "A prominent house, well versed in the conditions in Amazonas, writes that the quantities of provisions sent to the Upriver districts are materially less than those of last year, and consists of the actual necessities of life only, barring all articles of luxury," the quantity estimated at 40 per cent. less than last year. "Nevertheless the opinion seems to prevail that in all probability large receipts of rubber will be recorded for the ensuing few months, the natives being so sorely pressed for necessary food that the steamers will be practically besieged by them, to exchange provisions for rubber - - - but it must be considered that the consumption is growing to such an extent that the demand will conquer all opposition" to any advance in prevailing prices.

THE BOSTON UBERO COMPANY.

AMONG the advertising pages of this month's issue, will be noted the advertisement of The Ubero Plantation Co., of Boston, a company to which two prominent rubber men have paid the high compliment of lending their names, as president and vice president, respectively. The Ubero companies are making very rapid progress at the present time in equipping their plantation on the isthmus of Tehuantepec. A special instance of their progressive ideas is the use of American agricultural machinery for cultivating, which brings the rubber question down to a minimum in the matter of labor cost.

THINKS WELL OF HIS OWN WORK.—Walter Scott Strowger, of Rochester, New York, according to a press despatch from that city, "has just invented an electrical storage battery that he says beats anything of the kind ever offered by Edison and the other electrical experts." He has also invented, to go with this battery, "a substance to take the place of the India-rubber casing, which is superior to rubber for the purpose and is 90 per cent. cheaper and more desirable."

THE LATE JOHN HAVEN CHEEVER.

[CONTINUED FROM PAGE 318.]

he came to invest in outside ventures, such as mines and a variety of schemes into which his friends led him, he was far from successful, losing large sums of money. Through all his losses he was most philosophic, and to the last no one heard him complain of ill treatment by friends or fortune. It is not too much to say that the name of John H. Cheever was, and is now, known in the rubber trade circles the world over as a synonym for absolute commercial integrity.

Henry Fowle Durant, named above, born 1822 at Lowell, Mass., was graduated at Harvard in 1841. The latter part of his life was devoted largely to philanthropic work. He founded Wellesley College, which was opened in 1875, giving \$1,000,000 for the building and its equipment, and providing an endowment income of \$50,000 a year, besides making other donations to the institution. He died in Boston, October 2, 1881. To the end of his life the warmest friendship existed between Mr. Durant and Mr. Cheever, and Mrs. Cheever was among those present at the funeral of the latter.

HEARD AND-SEEN IN THE TRADE.

THE United States department of agriculture is reported to have begun actively the investigation of the sources of rubber and the possibility of producing on American territory an important part of the material used in our factories. The first expedition is likely to be sent to Mexico, and part of the results of its work may be a report on the methods of the American companies now raising capital for planting rubber in that country. It is not too much to say that the department does not regard favorably the methods of some of these companies, and would not hesitate, if supported by proof, to warn the public against them. Having determined the proper conditions for cultivating the *Castilloa elastica*, the next step will be to learn whether the tree can be grown successfully in Cuba or Porto Rico, or our possessions in the Pacific.

* * *

ANOTHER expedition, which is likely to be on a larger scale, will be in the nature of a botanical study of the Amazon region, from the headwaters to the Atlantic ocean, noting any plants of economic value which may possibly prove, after experiments have been made, to be suited for cultivation in any American possession. But it is expected that the most important result of this expedition will be a report on the Amazon rubber species, which shall be more accurate and more exhaustive than anything which has yet been written. The authorities at Washington are not content to assume that the *Hevea* rubber species cannot be domesticated outside of the Amazon basin.

* * *

AS for the Philippines, the investigation into the rubber situation which has been set on foot is within the province of the war department, through which the administration at Manila is still directed. It is known that many persons connected with the government of the Philippines are alive to the possibilities in the way of the existence of India-rubber and Gutta-percha there, and the principle will be adhered to strictly of protecting these and all other natural resources on the public domain.

* * *

IN the beginnings of the interest in rubber planting it was perhaps natural that leading members of the rubber trade should be asked to invest capital in the business, or to give

advice on the subject to intending investors on the outside. Almost without exception the rubber manufacturers showed a lack of interest at the outset, if they did not openly express their scepticism. As a matter of fact, a man's success as a rubber manufacturer does not alone make him acquainted with the conditions of rubber culture, nor is there anything in his work which should naturally make him more ready to plant rubber than to grow coconuts or gooseberries. But apart from the nature of their business, a considerable number of rubber manufacturers in the United States, looking at the matter purely as offering a good investment, have subscribed for stock in some of the planting companies formed lately. One formerly prominent rubber manufacturer is reported to have made an investment of this kind of \$100,000.

* * *

SPEAKING of the late John H. Cheever, a rubber man who long has been engaged in the business said: "I can say of Mr. Cheever what cannot be said of every man in business, that, though I have traveled throughout the United States, and have come in contact with all kinds of people in the trade, and in the days when Mr. Cheever was an active man of affairs, I have never heard an unfavorable comment upon him as a business man. I have never heard a word against his integrity or straightforwardness; never a complaint that his business methods had not been in the highest degree honorable."

* * *

AN American, lately returned from Germany, mentions that when he was at Harburg it seemed that the strike in the Harburg-Vienna rubber works at that place, mentioned in the last INDIA RUBBER WORLD, was practically at end. A considerable number of the employes refused from the outset to join the strike, and these were inconvenienced, not only by the annoyance of the strikers, but in many cases by the refusal of the local tradesmen to sell to them. For these reasons the rubber company erected on their premises sleeping accommodations, with dining room and kitchen, and thus prepared to protect their loyal employes against all outside interference.

* * *

THERE is an important growth to be recorded in the consumption of many lines of rubber goods which have been introduced only within comparatively recent years. The new Federal building in course of erection in Chicago is expected to be one of the notable structures in that city, as regards both cost and attractiveness in appearance. There is to be a liberal provision of rubber tiling in furnishing the interior. For instance, the four large United States court rooms on the sixth floor, will be floored with such tiling, rendering walking in them noiseless. It is reported that pneumatic horse collars have met with such favor in Paris that one order for such goods, calling for 25,000, has been sent to this side of the Atlantic. Another item worth mentioning particularly is the extending use of rubber conveying belts, for handling many different commodities.

MR. OHIO C. BARBER, president of the Diamond Match Co., and a large stockholder in the Diamond Rubber Co. (Akron, Ohio), has been in England lately, with the result that the Diamond Match Co. of Liverpool and the long established match manufacturing firm of Bryant & May, of London, have agreed to an amalgamation. The Liverpool business is put in at £480,000 (= \$2,400,000).

AT the present low prices, says a writer in *The Shoe Retailer*, it is likely that dealers will be disposed to sell a greater quantity of first quality rubber footwear than formerly.

NEWS OF THE AMERICAN RUBBER TRADE.

CONSOLIDATED RUBBER TIRE CO.

THE stockholders have voted to decrease the capital stock from \$10,000,000 to \$5,000,000, first by cancelling the stock now held in the treasury—\$1,000,000 each in preferred and common shares—and by substituting for 30,000 outstanding shares of preferred stock 4 per cent. fifty year debentures. This will leave the capital stock consisting of \$1,000,000 preferred and \$4,000,000 common. This action was taken early in the past month, and notices sent out that the preferred stock might be exchanged for the 4 per cent. income bonds at the Manhattan Trust Co. (New York) on or before July 18.

LATIMER TIRE AND RUBBER MANUFACTURING CO.

THIS is a new corporation, under the laws of Illinois, with change of name, to absorb the entire business and good will of the Latimer Rubber Tire Co. (Chicago), which change went into effect on July 1, the idea being to increase the scope of the business and make a general line of rubber goods. The new company has the same stockholders, board of directors and officers as the old company. The company's works are at Huntley, Illinois, near Chicago.

MORE "KERITE" CABLE FOR THE PHILIPPINES.

THERE has lately been shipped from New York for use in the Philippines, 300 miles of "Kerite" submarine cable, manufactured for the United States government by W. R. Brixey, (Seymour, Connecticut). The last shipment went forward from New York on June 23, by the government transport *Satsuma*, consisting of one length of 174 miles. The core of this cable was the same as that of the Skagway-Juneau cable mentioned in THE INDIA RUBBER WORLD of July 1, differing only in the size of the armor wire, which in the latter case embraced 16 No. 11 B. & S. galvanized steel wires, over which there were two reversed layers of saturated jute. The outside diameter of the cable was $\frac{7}{8}$ inch, whereas the outside diameter of the Skagway cable is $\frac{11}{16}$ inch, the difference, as before stated, being in the size of the steel armor.

OILCLOTH FIRMS CONSOLIDATED.

THE Standard Table Oilcloth Co. was incorporated July 12, under New Jersey laws, with \$10,000,000 capital, divided equally into preferred and common stock. Of the stock, \$4,000,000 of each class is issued to acquire plants and provide working capital. Seven concerns have been acquired:

The Western Linoleum Co. Akron, Ohio.
Ohio Oilcloth Co. Youngstown, Ohio.
Keystone Oilcloth Co. Norristown, Pennsylvania.
Atha & Hughes Newark, New Jersey.
Goodlatte Oilcloth Co. Passaic, New Jersey.
Joseph Wild & Co. Astoria, Long Island, N. Y.
A. F. Buchanan & Sons. Buchanan, New York.

The organization consists of—

President—H. M. Garlick.

Vice Presidents—G. M. McKelvey, George H. Hughes.

Secretary—Alvin Hunsicker.

Treasurer—F. H. Schmidt.

Directors—[The above and] John H. Berresford, Dr. A. M. Cole, George Allen, George Buchanan, Andrew Buchanan, C. H. Booth, Charles Templeton, A. Bowers Smith, T. N. Goodlatte, A. F. Adams, B. H. Atha, E. A. Owlatt, John Stambaugh.

These concerns are said to control 95 per cent. of the production of light weight oilcloth in the United States. Concerns manufacturing both heavy and light weight goods have not been taken in. The combination is said to have been financed by Youngstown capitalists. The headquarters will be in New

York. T. N. Goodlatte has been elected purchasing agent and Andrew Buchanan sales agent.

LATTA AND MULCONROY CO. (PHILADELPHIA.)

THE firm above mentioned are sending to their customers an invitation to call at their pavilion in the Manufacturers' annex at the Pan-American Exposition, to make that section their headquarters while visiting the exposition, and to have mail addressed there. The goods exhibited include a complete line of Roberts's water filters for every purpose.

"NUBIAN" PACKING IN THE NAVY.

WHEN Uncle Sam adopts an article to be used in his navy, it may be depended upon that the article has merit. The Voorhees Manufacturing Co. (Jersey City) received lately an order for sufficient Nubian packing to equip the cruiser *Montgomery*, which was lying in the Brooklyn navy yard. Then the Brazilian cruiser *Benjamin Constant*, which was in New York harbor, put into the yard for repairs and the Voorhees company received an order for Nubian packing to refit the trans-equatorial ship. It now looks very much as though this will lead to a wide adoption of "Nubian" in future naval work.

THE MACHINISTS' STRIKES IN CONNECTICUT.

THE machine shops in the Naugatuck valley, in Connecticut, have not escaped demands from their employes such as machinists all over the country have been making of late. But the strikes which resulted have been dealt with more summarily than in some other places. One of the establishments affected was that of the Farrel Foundry and Machine Co. (Ansonia). The company speedily resumed work, through the employment of non-union help. The strikers attempted to prevent their working, becoming so aggressive that the men employed had to be housed and fed in the shops. Early on the morning of July 4 the strikers bombarded the Farrel works with sky rockets and Roman candles, demolishing the windows and setting fire to the interiors of the buildings, making it necessary for all hands inside to work at the foundry fire apparatus for hours, to protect the property. Judge E. B. Gager then granted an injunction against the striking machinists, their unions, and their sympathizers, restraining them from further interference with the Farrel employes. This injunction not only prohibits such demonstrations, but upsets the scheme on foot to boycott merchants who sell to the company, and if any merchant refuses to sell to the foundry or its employes, he becomes a party to the illegal conspiracy and subject to a penalty. The situation has become quiet, and the Farrel's have gradually increased their working force.—The Birmingham Iron Foundry (Derby), which was also affected by the strike, has resumed work, with new men.

RUBBER MEN PLAY BALL.

THE second annual baseball contest between the Married Men and the Single Men of the New York office of the United States Rubber Co. occurred on June 29, at "The Cove," on Staten Island. The game was played, and at the end of the eighth inning the score stood 11 to 11. The Married Men were more successful in the ninth inning, however, winning the game by a score of 17 to 11. The day closed with a dinner at the hotel at "The Cove," at which the players were joined by about thirty of their friends who had witnessed the game. The game last year, at the same place, also resulted in a victory for the Married Men.

LOWELL RUBBER CO. (LOWELL, MASS.)

ISAAC CROCKER, president of the Lowell Rubber Co. (Lowell, Mass.), wishes a correction made of the item reporting the sale of that company, in the July number of this journal. He says the store is still in their possession, and that there never was any idea of selling out. The business is in a most excellent condition, and the company will celebrate the twenty-fifth anniversary of their existence in Lowell, and doing a wholesale and retail business in the "Spindle City," in November next, extending a cordial invitation to all rubber men of New England to visit them on that occasion. Mr. Crocker has the sub-post-office in his large store, which makes it the most prominent store in Lowell.

APSLEY RUBBER FACTORY IN GALA ATTIRE.

ST. JOHN'S Day, June 24, was celebrated at Hudson, Massachusetts, by Trinity Commandery in a way which reflected much credit both upon the Knights Templar and the public citizens. All Hudson and towns participated, and the occasion was arrayed in a manner befitting the illustration herewith gives appearance of the factory of the Apsley Rubber Co., with its decorations. A liberal and



tasteful display of bunting, American flags, and other emblems covered the buildings, and in a conspicuous place was displayed a banner inscribed: "Apsley Rubber Co. Welcome, Sir Knights." The office of the Hon. L. D. Apsley, president of the company, was also artistically decorated in the interior. Mr. Apsley is a member of Trinity Commandery, and was a member of the reception committee, and in the procession which formed one of the features of the day, he occupied a seat in a carriage with Past Grand Master E. B. Holmes, of the Massachusetts Grand Lodge, who was the most distinguished Mason present.

AMERICAN RUBBERS IN ENGLAND.

THE United States Rubber Co. are introducing in the British market, for the first time, the "Meyer" and "Jersey" brands of shoes. The result is that brands of American rubber footwear are now available in that market at somewhat lower prices than this company have offered hitherto. In THE INDIA RUBBER WORLD of May 1 [page 244] mention was made of some German and French prices for American rubbers. Some English list prices for goods of the above named brands follow:

STYLES.	Men's.	Women's.	Misses's.	Children's.
Croquet.....	—	2s. 4d.	2s. 1d.	1s. 8d.
Protection.....	4s.	2s. 8d.	2s. 3d.	1s. 2d.
Medium Overs.....	3s. 8d.	2s. 4d.	2s. 1d.	1s. 8d.
Self Acting.....	3s. 8d.	2s. 4d.	2s. 1d.	1s. 8d.
Arctics.....	7s. 5d.	4s. 11d.	4s.	3s.

[Discount on "Meyer" brand, 45 per cent.; on "Jersey" brand, 45@10 per cent.]

A comparison of the above prices, with list prices for the same goods in the United States, converting money at par of exchange, shows, on an average, practically no difference, whereas German prices are about 10 per cent. higher and French prices about 11 per cent. higher. In the latter two countries, however, account has to be taken of the duties on imports—something which the trade in Great Britain is not concerned with.

ENLARGED FACTORY FOR STURTEVANT FANS.

THE new plant of the B. F. Sturtevant Co. at Hyde Park, Massachusetts—sketch plans for which are now well under way—will probably provide about eight acres of floor space, fully double that existing in the old plant at Jamaica Plain. Nearly one-third of this area will be devoted to the manufacture of engines, motors, and generating sets. The recent growth of this department has been almost phenomenal, and it is in this field—particularly in the application of Sturtevant motors to Sturtevant fans—that the most rapid growth is expected in the immediate future. The entire plant will be equipped with Sturtevant generating sets and motors for direct driving of line shafts and of large individual machines.

BOSTON WOVEN HOSE AND RUBBER CO.

A SEMI-ANNUAL dividend of 3 per cent. was payable on July 15 to holders of record on July 10.

HARTFORD RUBBER WORKS CO.

AT a meeting of the stockholders, at Hartford, on July 16, the following directors were elected: Arthur L. Kelley, Providence, R. I.; William A. Towner, New York; John Redfield, Lewis D. Parker, and F. H. Turner, Hartford. The directors retiring are Colonel George H. Pope and George H. Day. At a meeting of the directors Lewis D. Parker was reelected president. The office of vice president, which had been vacant, was filled by the election of F. H. Turner, inventor of the Turner automobile tire. The resignation of J. C. Wilson, secretary and treasurer since 1899, was accepted, and W. H. St. John elected to succeed him. Mr. St. John has been for ten years secretary and general manager of the Spencer Automatic Machine Screw Co.—Mr. Wilson leaves Hartford to go to New Haven, with the Seamless Rubber Co.

THE PLYMOUTH RUBBER CO.

A MANUFACTURING concern that has come to the front very rapidly of late is the Plymouth Rubber Co., whose factory is located at Stoughton, Massachusetts. It will be remembered that the plant was started by Mr. Marron, who died very suddenly, the business then being taken over by his financial backers, together with Mr. Meade, who had been his superintendent. The present plant, built since the fire of some two years ago, consists of two story wooden buildings with neat offices on the second floor. Although the plant is not very large, one is struck at once with the amount of work that is turned out, as well as the quality of it. The main business of the factory is the proofing of cloths. For this the mill is thoroughly equipped with a washer, five grinders, twelve churns, and six spreaders. There are also three large dry heaters which have a capacity of 2500 yards apiece, and the company are now curing 8000 yards of cloth a day, and very shortly will increase to 10,000 yards. Necessary adjuncts to this business are two large storehouses, where are at present stored over 800,000 yards of cloth, part of which is owned by the company, most of it, however, being the property of customers who have sent it to be proofed. So large has this proofing business grown, that it is the intention of the company before long to erect another building, practically duplicating the present plant. A department of business that is not usually done by factories that do

spreading, is the manufacture of specialties in the line of mechanical rubber goods. For this work there is a good equipment of tubing machines, steam presses, and vulcanizers, which are to-day run particularly on rubber heels and soling, round core packing, and round jar rings. The motive power of the factory is furnished by two 100 horse power boilers, the engine being a Rollins of 200 horse power. In addition to this, the spreaders and churns are run by a 60 horse power dynamo. The factory has also its own electric light plant and modern rapid drive, Walworth sprinklers, Sturtevant exhaust fans, and so on. At present orders are coming in so fast that a night force is used three nights in the week. With the increase of the plant, however, the company hope to be able to fill all orders in the day time, at least during hot weather.

—The business of the Company is most successfully managed by Mr. A. Sydeman, who is treasurer of the company, and also general manager. It is to his energy and foresight that the growth of the company is largely due.

SEAMLESS RUBBER CO. (NEW HAVEN).

At a meeting of the stockholders at New Haven on July 23, it was voted to increase the capital stock of the company from \$130,000 to \$250,000. In view of the great increase of the business, the executive force was enlarged by the addition of Mr. J. C. Wilson, formerly of the Hartford Rubber Works Co. The officers of the company are now: George A. Alden, president; George M. Allerton, treasurer; E. D. Steer, secretary; J. C. Wilson, general manager.

RUBBER GOODS MANUFACTURING CO.

The following is a record of transactions in the company's shares on the New York Stock Exchange:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 4...	35,060	38 $\frac{1}{4}$	31 $\frac{7}{8}$	4,702	90	86
Week ending May 10...	10,285	37	28	3,000	86 $\frac{1}{4}$	80
Week ending May 18...	6,225	32 $\frac{5}{8}$	30	580	82	80 $\frac{1}{8}$
Week ending May 25...	5,100	34 $\frac{1}{2}$	32	375	83	82 $\frac{1}{2}$
Week ending June 1...	1,750	34	32 $\frac{1}{2}$	100	83 $\frac{1}{2}$	83 $\frac{1}{2}$
Week ending June 8...	1,100	33 $\frac{1}{2}$	32 $\frac{1}{2}$	572	83	79 $\frac{3}{4}$
Week ending June 15...	2,860	33 $\frac{3}{4}$	31	215	79	78 $\frac{1}{2}$
Week ending June 22...	5,596	31 $\frac{1}{2}$	29	1,700	79 $\frac{1}{2}$	78
Week ending June 29...	3,430	32	31	675	79 $\frac{7}{8}$	77 $\frac{1}{2}$
Week ending July 3...	1,300	31 $\frac{3}{4}$	31	..	..	..
Week ending July 13...	2,400	29 $\frac{7}{8}$	27 $\frac{1}{2}$	..	..	..
Week ending July 20...	700	28	27 $\frac{1}{2}$	100	76 $\frac{7}{8}$	76
Week ending July 27...	1,000	30	26 $\frac{7}{8}$	600	78	77 $\frac{1}{2}$

—The report became current on July 25 that the earnings of this company for the six months ending June 30, 1901, had amounted to \$1,209,563.99, or enough to pay 7 per cent. per annum on the preferred shares and over 11 per cent. on the common. The impression was given out, however, that there would be no early increase in the rate of dividends declared.

UNITED STATES RUBBER CO. CHANGES.

On July 25 the resignation of Charles R. Flint as treasurer took effect, and James B. Ford was elected to that office. Mr. Ford resigned the office of first vice president, which was filled by the election of Costello C. Converse, who for some years has been vice president of the Boston Rubber Shoe Co. The office of second vice president of the United States Rubber Co. is filled by Lester Leland, general manager of the Boston company. Mr. Flint stated for publication:

"For some time I have only had a nominal interest in the United States Rubber Co., and in view of my large interest in the Rubber Goods Manufacturing Co. and the increasing demands on my time, I have thought it better, in justice to both

the United States Rubber Co. and myself, to make way for someone who had a large stock interest and who, from the point of view of policy and time, could give closer attention to the affairs of the company."

Homer E. Sawyer, formerly selling agent of the Boston Rubber Shoe Co., having removed his headquarters to New York, on account of his election as manager of sales of the United States Rubber Co., the position which he filled in Boston has been placed temporarily in charge of A. F. Solbery, who for several years has been the agent of the Boston company at Chicago. —A. H. Yeomans, for many years purchasing agent for the Boston Rubber Shoe Co., has been appointed purchaser of rubber for the United States Rubber Co., and is now to be found at their general offices in New York. A. H. Brown, who for several years has been Mr. Yeomans's assistant, succeeds him at Boston. —The following is a record of transactions in the company's shares on the New York Stock Exchange for several weeks past:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending June 29	2,785	22	21	235	63	61
Week ending July 3	..	..	..	200	62	60 $\frac{7}{8}$
Week ending July 13	2,800	21 $\frac{1}{4}$	20 $\frac{7}{8}$	1,300	61	58
Week ending July 20	1,000	20	19	100	61	61
Week ending July 27	1,100	20	19	1,650	59 $\frac{3}{4}$	58

MORE RUBBER RUMORS IN WALL STREET.

A REPORT was circulated in Wall street lately to the effect that a plan is under way to consolidate the rubber business in a similar way to that in which the steel business has been consolidated in the United States Steel Corporation. It was reported that the new organization would be composed of the principal dealers in crude rubber, together with the most successful of the rubber manufacturing companies. Charles R. Flint, when questioned regarding this report, was quoted as follows: "I have a very large interest in the Rubber Goods Manufacturing Co., the acquisition of which would be essential to the successful consummation of a plan such as is referred to in the report shown to me. I consider that the United States Steel Corporation typifies the acme of scientific business, and I have no doubt but that the same result which has taken place in the steel industry will eventually come to pass in the rubber industry." It has been reported that when United States Rubber preferred broke below 60 on the recent suspension of dividends on that issue, a considerable amount of stock was acquired by important capitalists, several Standard Oil parties being mentioned in this connection.

TRADE NEWS NOTES.

A SUIT brought by the Consolidated Rubber Tire Co. against the Kelly Springfield Rubber Tire Co., of Davenport, Iowa, in the United States circuit court in Iowa, to restrain the latter from the use of their corporate name, and from molding the same on their rubber tires, has been decided by Judge McPherson, who declines to grant the injunction asked for.

—Cavanaugh, Brothers & Knapp, of New York, have leased the plant of the Standard Rubber Co. (Brockton, Mass.) for use in manufacturing army ponchos, for which they have a contract with the government.

—While there has been no revolution in the management of the business of the United States Rubber Co., there has been a more comprehensive and vital grasp taken by those in charge. This is seen by the rearrangement of minor offices, so that they are not only better controlled but are able to cooperate for the interests of the company.

=Otto Meyer, American representative of Livesey & Co., India-rubber merchants, removed on July 1 from No. 90 South street to No. 161 Summer street, Boston. Mr. Meyer is also the New England representative of the U. S. Rubber Reclaiming Works.

=Harry Herman, son of Mr. M. J. Herman, of the Brockton Rubber Scrap Co. (Brockton, Mass.), has located at No. 15 Villa place, Lynn, Mass., to engage in the same line of trade for himself.

=The Joseph Dixon Crucible Co. (Jersey City, N. J.) are taking advantage of the advance in the price of linseed oil, to call attention to their silicia-graphite protective paint.

=The Rocker Rubber Tire Co. (Springfield, Ohio), organized in April to manufacture Miller's rubber tire for rocking chairs, cradles, and the like, on which a patent had been applied for, have gone out of business. They seemed to have a practical article, and were reported to be making a good beginning.

=The Cox last factory (Malden, Massachusetts), which was burned some three weeks ago, is being rapidly rebuilt and will soon be in complete running order. The factory that was burned was probably the oldest in the world that had been continuously used in the manufacture of lasts for rubber footwear.

=The New York City Directory gives several companies as possessing the name Manhattan Rubber Co., and it is well to remember that the correct address of the well-known mechanical goods concern at No. 18 Vesey street is the Manhattan Rubber Manufacturing Co.

=A recent number of the *Patent Office Gazette* contains the announcement that the "Good Samaritan" hot water bottle, which is being so successfully marketed wherever such goods are sold, has been patented, marking it as another valuable invention in rubber brought out by C. J. Bailey, of Boston.

=The story of the strike at the works of the Hood Rubber Co. (Watertown, Massachusetts) is graphically told in the following figures. At the first inkling of trouble, the company were employing 1150 hands, of whom 550 went out. Soon 350 of the latter came back, and the company are now employing 1750 hands and making 20,000 pair of shoes per day.

=The American Tubing and Webbing Company (Providence, R. I.) have just moved into a large new building, which they have erected especially for their work. Their plant at present is the largest of the kind in the United States. They have established an agency in Great Britain, in charge of Warburton, Allen & Co., at Leicester, England.

=The Diamond Rubber Co. (Akron, Ohio) have opened a branch in Detroit, Michigan, for the sale of their cycle and vehicle tires. It is located at No. 310 Woodward avenue, and is in charge of W. M. Perrett, who is transferred from the company's offices at Akron.

=The Leatherberry Shoe Co., a new jobbing house to be opened at Clarksburg, West Virginia, about October 1, with C. P. Leatherberry at its head, will handle the Boston Rubber Shoe Co.'s brands.

PERSONAL MENTION.

MR. W. F. MASON, managing director of the Rubber Machinery Co., Limited (Manchester, England), was a recent visitor to the United States, on business in relation to the Continental rights for certain machinery which his company control for Great Britain.

=Mr. A. L. Comstock, superintendent of the American Rubber Co. (Cambridgeport, Mass.), is spending the summer in Europe, his trip embracing Germany, France, and England.

=Mr. George Puchta, of the Queen City Supply Co. (Cincinnati, Ohio), was a recent visitor to the Boston Belting Co., Boston.

=Mr. F. F. Schaffer, general superintendent of the Goodyear's India Rubber Glove Manufacturing Co., and the Wales Goodyear Co. (Naugatuck, Conn.), has become somewhat run down from work, and has found it necessary to take several weeks vacation. He is on the road to rapid recovery, and will soon be back at his post at Naugatuck.

=Mr. George P. Whitmore, secretary of the Boston Belting Co., was said, by the Newton (Mass.) newspapers, to be enjoying a vacation trip to Europe. As a matter of fact, however, his trip took him to the mountains of Colorado, and he had a most enjoyable outing.

=At Brockton, Massachusetts, on Tuesday evening, July 30, Miss Ray Herman, daughter of Mr. and Mrs. M. J. Herman, was married to Mr. Louis Scholtz, of the same city. Mr. Herman is at the head of the Brockton Rubber Scrap Co.

=George T. Case, of the Morgan & Wright rubber factory (Chicago), is the owner of an orange grove in Porto Rico, to which he hopes some day to be able to retire, when it will afford a competency.

=Mr. Alfred Calmon, managing director of the Asbest-und Gummiwerke Alfred Calmon, Act.-Ges. (Hamburg, Germany), was recently on this side of the Atlantic, visiting the asbestos mines in which he has an interest in Canada, and several rubber factories in the States, and also the offices of THE INDIA RUBBER WORLD.

=Mr. Julius Kopp, dealer in India-rubber and Gutta-percha goods at Copenhagen, Denmark, was a recent visitor to the offices of THE INDIA RUBBER WORLD. Mr. Kopp was one time a resident of Brooklyn, N. Y. He became naturalized here and served as lieutenant in the Twenty-eighth New York regiment during the civil war.

OBITUARY NOTES.

ANDREW ALLAN, who died at Montreal on June 27, was president of The Canadian Rubber Co. of Montreal, besides being the head of the Allan Steamship Co., president of the Merchants' Bank of Canada, president of the Montreal Telegraph Co., and a member of the Montreal Harbor Board. He was born in Scotland in 1823, and had lived in Canada since his seventeenth year.

=The many friends of Mr. H. P. Moorhouse, of Paris, France, deeply sympathize with him in the loss of his wife, who died very suddenly on June 21. Most of the leaders of the rubber trade on both sides of the Atlantic were acquainted with both Mr. and Mrs. Moorhouse, and the news of the former's bereavement has brought out general and heartfelt expressions of sorrow.

=William E. McManus, superintendent of the Kokomo Rubber Co. (Kokomo, Indiana), died suddenly on June 24, aged 32. He went from Chicago to Kokomo six years ago.

NEW ENGLAND RUBBER CLUB.

AT a meeting of the executive committee of the club, held in Boston on July 25, the following committees were elected:

Dinner Committee.—William J. Kelly, George P. Whitmore, William H. Gleason, Robert B. Baird, Charles J. Davol.

Entertainment Committee.—Henry C. Pearson, Frederick C. Hood, Andrew H. Brown, William E. Barker, Frederick L. Smith.

Committee on Resolutions.—Augustus O. Bourn, Charles H. Arnold, George P. Whitmore.

The committees are planning a very interesting outing for August, the date to be announced later.

WHERE RUBBER WAS NOT WATERPROOF.—One of the prime uses of rubber is to keep out water. But the Rubber Trust was evidently formed without reference to that fact.—*New York World.*

REVIEW OF THE CRUDE RUBBER MARKET.

OUR records show a somewhat larger export of rubber from Pará for the crop year closed on June 30 than in any former year, indicating how futile are attempts to forecast the output. Up to the end of the first six months of the year it seemed doubtful if the figures of a few former seasons would be reached. But the bulk of the year's production has come in since January 1. The percentage of each year's crop to arrive at Pará before January 1 has been as follows:

1891-92.	1897-98.	1898-99.	1899-1900.	1900-01.
54.7%	51.5%	44 1%	41.2%	40.9%

The explanation of the increasing delay in the bringing forward of rubber doubtless is that the center of production is gradually receding from Pará. Indeed, Pará is no longer first as a rubber market, but Manáos. The effect of the new law at Manáos, requiring all rubber produced in Amazonas state to be handled at that port, has led to a change indicated by this comparison, covering the first six months of two years:

	1897.	1901.
Rubber exports from the Amazon.....kilos	11,475,838	16,988,604
Of this Manáos shipped..... "	4,196,315	10,412,256
Percentage from Manáos direct.....	36.6	61.3
Percentage for Pará (including transshipments from Iquitos, the Madeira river, etc.	63.4	38.7

This change of base must have an effect in unsettling market conditions for a time, though in what degree it is, of course, impossible to say. Already it has had an effect in delaying shipments, and until an adequate telegraph system to Manáos exists, the handling of rubber there must be attended by certain risks, in times of fluctuating markets, from which merchants at Pará are exempt.

The fact that the last rubber crop was larger than in former year, even if only by a few hundred tons—a small ship load—would be more encouraging, if its percentage of Caucho were not so large. The total exports of rubber for the first six months in each year, and the proportion of Caucho has been as follows (in kilograms):

	1897.	1898.	1899.	1900.	1901.
Total exports	11,475,838	11,160,925	9,441,988	10,530,509	16,988,604
Caucho....	917,602	1,377,946	897,774	961,530	3,091,970

Caucho, of course, is a useful gum, and of value in the industry, but the history of Caucho gathering is one endless story of destruction of the trees. Every pound that comes to market is obtained by the loss of the tree, whereas the Pará rubber is the product of trees which are tapped continuously year after year. The former rich Caucho districts are now exhausted, and at the present rate the end of Caucho gathering will soon be reached.

Our quotations, presented below, as compared with those last published, show a decline throughout the list, which decline is the result of a gradual tendency, in one direction, during the entire month. It is understood that considerable buying by manufacturers has been done during the month, and that not a little rubber has changed hands, although the market, to outward appearance, has remained quiet. Shipments of Pará grades for European consumption have continued from New York, indicating a shortage in stocks on the other side of the Atlantic. Cables from Pará report a strong market there, with little rubber in first hands, and all arrivals bought readily. The usual statistical summaries are presented herewith.

New York quotations at the close of business on July 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	81 @82	Tongues.....	43 @44
Islands, fine, old....	83 @84	Sierra Leone.....	45 @63
Upriver, fine, new....	82 @83	Benguella.	50 @51
Upriver, fine, old....	85 @86	Cameroon ball.....	44 @45
Islands, coarse, new....	46 @47	Flake and lumps.....	31 @32
Islands, coarse, old....	@	Accra flake.....	17 @18
Upriver, coarse, new....	60 @61	Accra buttons.....	46 @47
Upriver, coarse, old....	62 @63	Accra strips.....	@
Caucho(Peruvian)sheet	46 @47	Lagos buttons.....	45 @46
Caucho (Peruvian) ball	54 @55	Lagos strips.....	@
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage....	51 @52	Madagascar, black....	@
Guayaquil, strip.....	48 @49	EAST INDIAN.	
Nicaragua, scrap....	51 @52	Assam.....	60 @61
Mangabeira, sheet....	41 @42	Borneo.....	36 @46

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	5\$800	Upriver, fine....	6\$750
Islands, coarse.....	2\$500	Upriver, coarse....	4\$350

Exchange 10 1/2 d.

NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine.....	87@90	89@97	97@1.01
Upriver, coarse.....	62@64	65@72	77@83
Islands, fine.....	84@87	87@95	95@98
Islands, coarse.....	47@53	47@55	63@66
Cameté, coarse.....	54@58	55@60	65@68

In regard to the financial situation, Albert B. Beers, (broker in India-rubber, No. 58 William street, New York), advises us as follows:

"The general market for commercial paper has ruled rather higher during July than for some two or three months previously, average rates for the best rubber names being 4 1/2 @ 5 per cent., and for those not so well known 5 1/2 @ 6 per cent. During the early part of the month the demand was very light, but has increased during the past week."

Stocks of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total 1901.	Total 1900.	Total 1899.
Stocks, May 31..... tons	810	85 =	895	629	447
Arrivals, June.....	339	197 =	536	893	431
Aggregating.....	1149	282 =	1431	1522	878
Deliveries, June.....	357	195 =	552	919	460
Stocks, June 30.....	792	87 =	879	603	418

	PARÁ.			ENGLAND.		
	1901.	1900.	1899.	1901.	1900.	1899.
Stocks, May 31.....	150	590	520	1350	1675	1145
Arrivals, June.....	526	1015	1070	350	675	505
Aggregating.....	676	1605	1590	1700	2350	1650
Deliveries, June.....	639	1445	1250	675	875	650
Stocks, June 30... ..	37	160	340	1025	1475	1000

	1901.	1900.	1899.
World's supply, June 30....	2760	3034	2204
Pará receipts, July 1 to June 30.....	*27,640	*26,791	*25,355
Afloat from Pará to United States, June 30..	359	108	126
Afloat from Pará to Europe, June 30.....	460	688	300

[*Including caucho.]

Liverpool.

WILLIAM WRIGHT & CO. report [July 1]: "Fine Pará has been in moderate demand and somewhat easier rates. There is no pressure to sell, but equally there is not much eagerness to buy. Further reports about the new crop all predict a

shortage of supply. The theory that the gatherers, who it is admitted have received less money this year than formerly, will, in consequence, work twice as hard, is in the opinion of those best qualified to judge, untenable. Meanwhile operators are, so to speak, 'sitting on the fence,' waiting to see whether they should jump up or fall down. Sales on spot are small, closing with Upriver at 3s. 9½d., Islands at 3c. 8d. For delivery there has been a good demand. Sales 245 tons July-August 3s. 9½d. to 3s. 9d. to 3s. 9¼d.; September-October 3s. 9d. to 3s. 9½d. *Entrefine* in steady request and not much offering. Buyers for delivery 3s. 7¼d.; sellers of a limited quantity 3s. 7½d. *Negroheads*.—Rather more inquiry for scrappy, prices of which are comparatively cheap; buyers' fair average 2s. 7½d.; sellers 2s. 8d. *Cameta*: Good prices realized on spot; sellers forward 2s. 4d. *Pará* scarce and wanted, to-day's value 2s. 2d. *Peruvian*.—In spite of large receipts the demand has been good, stimulated by the fact that the present rates are reasonable, and a possible short supply of good medium grades in the autumn. Ball held spot or July-August 2s. 5½d.; buyers of Slab forward July-August 1s. 10¼d.; sellers 1s. 11d.; buyers of August 1s. 11d.; sellers 1s. 11¼d. *Mollendo*.—Prices still continue very high, all arrivals being readily sold at full rates."

J. J. Fischer & Co., Limited, report Liverpool stocks:

	Mar. 31.	Apr. 30.	May 31.	June 30.
Pará: Fine.....	1032 tons	1082 tons	854 tons	790 tons
Medium.....	138 "	179 "	149 "	112 "
Negroheads.....	176 "	255 "	241 "	178 "
African.....	862 "	792 "	852 "	768 "
Peruvian.....	203 "	294 "	371 "	433 "
Mangabeira.....	422 pkgs	418 pkgs	378 pkgs	331 pkgs
Pernambuco.....	177 "	162 "	—	—
Ceará.....	1778 "	1156 "	1105 "	804 "
Maniçoba.....	80 "	122 "	31 "	2 "
Assaree.....	486 "	495 "	494 "	389 "
Mollendo.....	—	6 "	14 "	118 "

London.

JACKSON & TILL, under date of July 1, report:

	1901.	1900.	1899.
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	160	139	62
{ Assam and Rangoon.....	52	44	29
{ Other sorts.....	530	464	396
Total.....	742	647	487
LIVERPOOL { Pará.....	1034	1482	990
{ Other sorts.....	1352	1524	770
Total, United Kingdom.....	3128	3653	2247
Total, June 1.....	3502	3624	2510
Total, May 1.....	3397	3952	2129

PRICES PAID DURING JUNE.

	1901.	1900.	1899.
Pará fine.	3/8 @ 3/9	3/9½ @ 4/1½	4/— @ 4/2
Negroheads, Islands.	2/1¼ @ 2/2½	2/2 @ 2/3	@ 2/7½
Do scrappy.....	@ 2/7½	2/10½ @ 2/11½	3/1½ @ 3/3
Bolivian.....	No sales.	3/11½ @ 4/1	4/— @ 4/2½

POSITION WANTED.

SUPERINTENDENT.—Position wanted as Superintendent of mechanical rubber factory by an experienced man. Understands compounding and handling of men, wages, etc. Address F., care INDIA RUBBER WORLD. [54]

POSITION OPEN.

RECLAIMING —Wanted, a man thoroughly acquainted with the latest methods of reclaiming rubber. A good position for the right man. Address RECLAIMER, care of THE INDIA RUBBER WORLD. [55]

MACHINERY FOR SALE.

FOR SALE.—A 52 feet 6 inch new turned shaft, four pieces, with couplings, bolts, and pinions. 1 Washer, complete, with pulley and shaft. 1 Grinder. 1 chilled iron Roll, 14"×36"; 1 chilled iron Roll, 16"×36". 1 double gear chilled iron Mill, 12"×36"; 1 four roll Calender, chilled iron rolls, 16"×36", in good condition. PHILIP MCGRORY, Trenton, N. J. [53]

Balata.

BLOCK has been quoted in New York recently at 41 cents, with a tendency to advance, owing to the absence of supplies in the market on the date of the quotation. Sheet, 64 @ 65 cents. A recent bid at the London rubber auctions was 1s. 8d. for fair Venezuelan block, the lot being withdrawn.

Hamburg.

OUR correspondent reports a quiet market, for crude rubber, with prospects of an advance on all sorts, and particularly Africans, by the end of summer.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At yesterday's sale by inscription the tendency was quiet and there was but little demand. Of the 326 tons offered only 130 tons were sold, at prices showing on the average a decline on valuations of 3 to 4 per cent. The lots which were withdrawn are now obtainable at the same conditions, except the two parcels of Haut Congo—Lopori, Nos. 2294 and 2295, which are held at valuations. Most of the qualities usually taken by the United States have been withdrawn unsold. Since the sale a parcel of 9465 kilos Congo—Lomami (No. 2293) was taken out of the market at unknown price. The stock on July 9 comprises about 803,800 kilograms, including the arrivals per *Philippeville* and *Stanleyville*, which will be offered in sale by inscription on August 21. C. SCHMID & CO.

Antwerp, July 10, 1901.

ANTWERP RUBBER STATISTICS FOR JUNE.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stock, May 31. Kilos	825,442	877,626	503,350	190,203	120,766
Arrivals in June....	537,799	282,176	418,266	124,532	166,651
Congo sorts.....	517,896	243,308	370,822	102,747	163,011
Other sorts.....	19,903	38,868	47,444	21,785	3,640
Aggregating ...	1,363,241	1,159,802	921,616	314,795	287,417
Sales in June	408,662	433,426	417,619	189,130	119,238
Stocks, June 30....	954,579	726,376	503,997	125,665	168,179
Arrivals since Jan. 1	3,081,392	3,011,463	1,848,952	866,055	749,242
Congo sorts.....	2,785,134	2,489,026	1,605,106	745,784	686,058
Other sorts	296,258	522,437	243,846	120,271	63,184
Sales since Jan. 1 ..	2,740,852	2,577,078	1,608,295	834,853	720,332

ARRIVALS AT ANTWERP.

JULY 17.—By the *Anversville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo).....	kilos 263,863
Bunge & Co. (Société Anversoise).....	34,557
Bunge & Co. (Plantations Lacourt).....	22,025
Messrs Bunge & Co. (Société Isangi).....	27,411
Société Coloniale Anversoise (Belge du Haut Congo).....	3,112
Société Coloniale Anversoise (Société Lomami) .. .	23,305
Société Coloniale Anversoise (Société La Djuma)....	7,741
Société Coloniale Anversoise (Süd Kamerun)	1,580
Société A B I R ..	33,180

MACHINERY WANTED.

VULCANIZER.—Wanted, to purchase a Vulcanizer, and complete equipment for making hose. Address MANUFACTURER, care of THE INDIA RUBBER WORLD. [43]

MILLS, Calenders, and large Presses wanted. Must be in excellent condition. Give particulars as to sizes and prices and where they can be seen. Address HOSE AND BELT MANUFACTURER, care of THE INDIA RUBBER WORLD. [44]

FOR SALE.

ALL KINDS RUBBER WASTE.—We sell at low price, all unvulcanized Rubber Scrap from Cement Waste. Write for free sample. Best cash prices paid for rubber scrap and waste. Old Wringer Rolls bought and sold a specialty. U. S. WASTE RUBBER Co., No. 36 Hawthorne street, Brockton, Mass. [52]

Ch. Dethier (Société Belgika)	25,544
Ch. Dethier (Société la Loanjé).....	7,669
M. S. Cols. (Société Lubefu).....	15,222
M. S. Cols. (Centrale Africaine)...	5,186
Comptoir Commercial Congolais	11,085
Equatoriale Congolaise.....	19,73 6
L. & W. Van de Velde (Comptoirs Congolais Velde)	8,000
Cie. Commerciale des Colonies (La Kassaienne).....	6,112
Trafic Congolais.....	2,170 517,588

JUNE 27.—By the steamer *Stanleyville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo) .kilos.	167,000
Bunge & Co. (Société Anversoise).....	19,000
Bunge & Co. (Société Isangi).....	20,000
Société Coloniale Anversoise (Belge du Haut Congo)	16,000
Société Coloniale Anversoise (Société Lomami).....	9,000
Société A B I R.....	26,000
Ch. Dethier (Haute Sangha).....	4,000
Ch. Dethier (Société Belgika).....	3,000
M. S. Cols (Société Ikelamba).....	2,500
Comptoir des Produits Coloniaux (Messageries Fluviales).....	400
Société pour Commerce Colonial (Est du Kwango).....	6,000 272,900

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

July 1.—By the steamer *Maranhense*, from Manáos and Pará:

IMPORTERS.					
	Fine.	Medium.	Coarse.	Caucho.	Total.
Reimers & Co.....	59,300	18,400	32,500	36,800=	147,000
Crude Rubber Co.....	81,500	8,000	37,800	.....=	127,300
New York Commercial Co.....	53,600	9,400	46,200	17,300=	126,500
Albert T. Morse & Co.....	12,300	1,300	16,400	47,900=	77,900
Otto G. Mayer & Co.....	12,800	2,400	4,200	600=	20,000
Total.....	219,500	39,500	151,100	102,600=	512,700

July 20.—By the steamer *Dominic*, from Manáos and Pará:

Reimers & Co.....	81,200	10,300	44,600	25,900=	162,000
Crude Rubber Co.....	56,700	13,600	7,300	.....=	77,600
Albert T. Morse & Co.....	18,500	6,900	18,800	16,000=	60,200
New York Commercial Co.....	8,700	1,000	10,000	14,300=	34,000
Otto G. Mayer & Co.....	9,100	4,800	20,000	.....=	33,900
Smith & Schipper.....	17,500	1,000	2,800	1,100=	22,400
Czarnikow, McDougal Co.....	3,000	1,300	.....	.....=	4,300
Total.....	104,700	38,900	103,500	57,300=	394,400

PARA RUBBER VIA EUROPE.

JUNE 22.—By the <i>Luanla</i> =Liverpool:	
Robinson & Tallman (Coarse).....	8,800
JUNE 28.—By the <i>Germanic</i> =Liverpool:	
George A. Alden & Co. (Coarse).....	3,500
Crude Rubber Co. (Coarse).....	3,500 7,000
JULY 6.—By the <i>Campania</i> =Liverpool:	
Otto G. Mayer & Co. (Coarse).....	33,500
Reimers & Co. (Coarse).....	22,000 55,500
JULY 11.—By the <i>Majestic</i> =Liverpool:	
Otto G. Mayer & Co. (Coarse).....	16,000
Otto G. Mayer & Co. (Caucho).....	45,000 61,000

CENTRALS.

JUNE 24.—By the <i>Comus</i> =New Orleans:	
Jimenez & Escobar.....	4,000
A. T. Morse & Co.....	1,500
George J. Worth.....	2,000 7,500
JUNE 24.—By the <i>City of Washington</i> =Colon:	
Isaac Brandon & Bros.....	4,000
D. N. Carrington & Co.....	1,900
Crude Rubber Co.....	1,800
A. P. Strout.....	1,500
Eggers & Heinlein.....	1,400
W. Loalza & Co.....	1,300
G. Amsinck & Co.....	500
W. R. Grace & Co.....	400
Hirzel, Feltman & Co.....	300 13,300
JUNE 25.—By the <i>Athos</i> =Port Limon:	
Lawrence Johnson & Co.....	2,000
Roldan & Van Sickle.....	500
New York Commercial Co.....	300
Graham, Hinckley & Co.....	100
Park Sons & Co.....	500
Kunhardt & Co.....	200 3,600
JUNE 27.—By the <i>Atabama</i> =Bluefields:	
A. N. Rotholz.....	6,500
JUNE 26.—By <i>Pennsylvania R. R.</i> =New Orleans:	
J. B. Sageman.....	1,000
Lawrence Johnson & Co.....	400
Silva Bussenius & Co.....	800
L. N. Chemedlin & Co.....	700
G. Amsinck & Co.....	700
Kunhardt & Co.....	600
W. Loalza & Co.....	600 5,300
JUNE 29.—By the <i>Esperanza</i> =Mexico:	
Bock, Andrews & Co.....	2,000
Graham, Hinckley & Co.....	1,000
F. Probst & Co.....	1,000
J. W. Wilson & Co.....	300
Frank Brothers.....	300
E. Steiger & Co.....	400 5,000
JULY 2.—By the <i>Advance</i> =Colon:	
Roldan & Van Sickle.....	4,300
Flint, Eddy & Co.....	4,200
Hirzel, Feltman & Co.....	4,400
G. Amsinck & Co.....	2,400
Crude Rubber Co.....	2,600
Mecke & Co.....	1,200
Eggers & Heinlein.....	600 19,700
JULY 1.—By the <i>Alleghany</i> =Greytown:	
G. Amsinck & Co.....	2,200
A. D. Straus & Co.....	2,000
A. P. Strout.....	1,500
Monarch Rubber Co.....	1,600
Kunhardt & Co.....	1,500
Lawrence Johnson & Co.....	500
S. S. Sander & Co.....	3,500
Jimenez & Escobar.....	1,000 13,400

CENTRALS—Continued.

JULY 6.—By the <i>Phanicia</i> =Hamburg:	
Livesey & Co.....	5,500
JULY 6.—By the <i>Campania</i> =Liverpool:	
Kramrisch & Co.....	3,300
Reimers & Co.....	3,500 6,800
JULY 8.—By the <i>Wordsworth</i> =Pernambuco:	
J. H. Rosbach & Bros.....	22,000
Flint, Eddy & Co.....	1,200
Elmenhorst & Co.....	800 24,000
JULY 8.—By the <i>Protelus</i> =New Orleans:	
A. T. Morse & Co.....	3,500
For London.....	2,000
Harburger & Slack.....	1,000 6,500
JULY 8.—By the <i>Alliance</i> =Colon:	
G. Amsinck & Co.....	4,500
Isaac Brandon & Bros.....	5,800
Dumarest & Co.....	1,700
Hirzel, Feltman & Co.....	3,400
Roldan & Van Sickle.....	2,200
Crude Rubber Co.....	1,200
R. F. Cornwell.....	1,200
A. P. Strout.....	700
E. Steiger & Co.....	700
H. Marquardt & Co.....	500
Graham, Hinckley & Co.....	500
J. B. Sageman.....	600
Pomares & Cushman.....	600
Lanman & Kemp.....	600
A. Santos & Co.....	500
Lawrence Johnson & Co.....	200
Jimenez & Escobar.....	500 25,400
JULY 12.—By the <i>Monterey</i> =Mexico:	
Jacobs & Allison.....	700
Graham, Hinckley & Co.....	500
H. Marquardt & Co.....	200
E. Steiger & Co.....	300 1,200
JULY 15.—By the <i>Prins Willem IV</i> =Trinidad:	
Thebaud Bros., (Angostura Fine).....	7,500
Thebaud Bros., (Angostura Coarse).....	3,500 11,000
JULY 15.—By the <i>Alene</i> =Greytown:	
A. P. Strout.....	4,500
Punderford & Co.....	4,500
G. Amsinck & Co.....	3,400
Andreas & Co.....	1,500
Monarch Rubber Co.....	1,500
Jimenez & Escobar.....	1,000
Mattus & Ware.....	1,000
Kunhardt & Co.....	700
Middleton & Co.....	600 18,700
JULY 17.—By <i>Pennsylvania R. R.</i> =New Orleans:	
Flint, Eddy & Co.....	3,000
L. N. Chemedlin & Co.....	2,500
G. Amsinck & Co.....	2,000
W. R. Grace & Co.....	1,500
R. G. Barthold.....	300 9,300
JULY 20.—By the <i>Yucatan</i> =Mexico:	
E. Steiger & Co.....	4,000
Thebaud Brothers.....	2,000
P. Harmony's Nephews Co.....	1,000
Flint, Eddy & Co.....	700
For Europe.....	2,500 10,200
JULY 22.—By the <i>Louisiana</i> =New Orleans:	
A. N. Rotholz.....	2,000
A. T. Morse & Co.....	4,000
T. N. Morgan.....	1,000
For London.....	2,000 9,000
JULY 22.—By the <i>City of Washington</i> =Colon:	
G. Amsinck & Co.....	6,200
Isaac Brandon & Bros.....	2,900
Roldan & Van Sickle.....	1,700
Gillespie Bros. & Co.....	1,500

CENTRALS—Continued.

Lanman & Kemp.....	600
Flint, Eddy & Co.....	500
Hirzel, Feltman & Co.....	400
S. S. Sander & Co.....	200 14,900
JULY 24.—By the <i>Athos</i> =Port Limon:	
Lawrence Johnson & Co.....	3,000
Kunhardt & Co.....	1,200
D. A. De Lima & Co.....	2,000
Mecke & Co.....	1,200
G. Amsinck & Co.....	1,000 8,400

AFRICANS.

JUNE 26.—By the <i>Kenington</i> =Antwerp:	
A. T. Morse & Co.....	95,500
Reimers & Co.....	11,000 106,500
JUNE 29.—By the <i>Pretoria</i> =Hamburg:	
Livesey & Co.....	5,000
Robinson & Tallman.....	2,000 7,000
JULY 1.—By the <i>Etruria</i> =Liverpool:	
Livesey & Co.....	10,000
Robinson & Tallman.....	8,000 18,000
JULY 1.—By the <i>Zealand</i> =Antwerp:	
George A. Alden & Co.....	32,000
Crude Rubber Co.....	32,000
Joseph Cantor.....	20,000
Reimers & Co.....	9,000 93,000
JULY 5.—By the <i>Servia</i> =Liverpool:	
Robinson & Tallman.....	25,000
JULY 6.—By the <i>Phanicia</i> =Hamburg:	
Livesey & Co.....	45,000
A. T. Morse & Co.....	5,000 50,000
JULY 8.—By the <i>Peninsular</i> =Lisbon:	
George A. Alden & Co.....	78,000
Crude Rubber Co.....	89,000
A. T. Morse & Co.....	22,500 189,500
JULY 6.—By the <i>Campania</i> =Liverpool:	
George A. Alden & Co.....	61,000
Crude Rubber Co.....	62,000
Livesey & Co.....	11,500
Robinson & Tallman.....	90,000 224,500
JULY 9.—By the <i>Frisland</i> =Antwerp:	
George A. Alden & Co.....	56,000
Crude Rubber Co.....	55,000 111,000
JULY 13.—By the <i>Dona Maria</i> =Lisbon:	
Robinson & Tallman.....	45,000
JULY 12.—By the <i>Patrieta</i> =Hamburg:	
A. T. Morse & Co.....	15,500
Livesey & Co.....	14,000 29,500
JULY 15.—By the <i>Umbria</i> =Liverpool:	
Ideal Rubber Co.....	11,500
JULY 15.—By the <i>Umbria</i> =Liverpool:	
Reimers & Co. (Almedina).....	20,000
JULY 19.—By the <i>Graf Walderssee</i> =Hamburg:	
George A. Alden & Co.....	11,000
Crude Rubber Co.....	10,000
Robinson & Tallman.....	11,500
Livesey & Co.....	15,000 47,500
JULY 20.—By the <i>Luanla</i> =Liverpool:	
George A. Alden & Co.....	12,000
Crude Rubber Co.....	11,500
Livesey & Co.....	3,500 27,000
JULY 23.—By the <i>Southwark</i> =Antwerp:	
A. T. Morse & Co.....	90,000

EAST INDIAN.		GUTTA-PERCHA—Continued.		BOSTON ARRIVALS.	
	POUNDS.				POUNDS.
JULY 1.—By the <i>Nomadic</i>=Liverpool: Arbuthnot, Latham & Co..... 2,500		JULY 12.—By the <i>Patricia</i>=Hamburg: R. Soltan & Co..... 5,500		JUNE 1.—By the <i>Bosnia</i>=Hamburg: Livesey & Co.—African..... 44,386	
JULY 2.—By the <i>Richmond Castle</i>=Singapore: George A. Alden & Co..... 2,000 R. Brauss & Co..... 8,000 D. P. Cruikshank..... 11,000 Livesey & Co..... 5,500 26,500		JULY 16.—By the <i>Georgic</i>=Liverpool: R. Crooks & Co..... 35,000		JUNE 14.—By the <i>Kansas</i>=Liverpool: George A. Alden & Co.—East Indian..... 1,473 JUNE 14.—By the <i>Uttonia</i>=Liverpool: Livesey & Co.—African..... 1,600	
JULY 6.—By the <i>Phoenicia</i>=Hamburg: William Wright & Co..... 4,000		BALATA. JUNE 26.—By the <i>Prins Mauritz</i>=Surinam: George A. Alden & Co..... 1,500		JUNE 26.—By the <i>Lancastrian</i>=Liverpool: George A. Alden & Co.—African..... 10,038 Grude Rubber Co.—African..... 28,140 38,178	
PONTIANAK. JULY 1.—By the <i>Marquette</i>=London: Robinson & Tallman..... 50,000		JULY 1.—By the <i>Grenada</i>=Trinidad: George A. Alden & Co..... 3,500 Middleton & Co..... 1,000 4,500		Total..... 85,637	
JULY 2.—By the <i>Richmond Castle</i>=Singapore: George A. Alden & Co..... 120,000		JULY 5.—By the <i>Hildur</i>=Maracaibo: For Europe..... 4,000		[NOTE.—The weights given above are those entered at the Custom House. Private returns, however, aggregate 127,200 pounds.]	
JULY 15.—By the <i>Umbria</i>=Liverpool: Reimers & Co..... 22,500		JULY 15.—By the <i>Prins Willem IV.</i>=Trinidad: George A. Alden & Co..... 2,500		GUTTA-PERCHA. JUNE —.—By the <i>Peruvian</i>=Glasgow: 1,000	
JULY 16.—By the <i>Manitou</i>=London: Reimers & Co..... 20,000		CUSTOM HOUSE FIGURES. PORT OF NEW YORK—JUNE.		JUNE —.—By the <i>Assyrian</i>=Glasgow: 1,003	
GUTTA-PERCHA AND BALATA. JUNE 29.—By the <i>Patricia</i>=Hamburg: R. Soltan & Co..... 8,000 George A. Alden & Co..... 2,500 10,500		Imports:		JUNE 17.—By the <i>Virginian</i>=London: George A. Alden & Co..... 2,288	
JULY 2.—By the <i>Richmond Castle</i>=Singapore: Win er & Smille..... 30,000		Exports:		Total..... 4,291	
JULY 8.—By the <i>Menominee</i>=London: H. H. Smythe..... 4,500		India-rubber..... 266,059 \$195,895 Reclaimed rubber..... 113,906 17,123 Rubber Scrap Imported..... 904,835 \$49,369		PONTIANAK. JUNE 5.—By the <i>Cambrian</i>=London: George A. Alden & Co..... 53,000	

RUBBER EXPORTS FROM MANAOS AND PARA—FIRST HALF OF 1901.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
MANAOS.											
Prüsse, Dusendschön & Co....	638,914	190,479	209,473	308,800	1,347,666	710,577	180,606	152,731	411,301	1,455,215	2,802,881
Witt & Co.....	599,297	142,528	188,821	465,386	1,306,032	248,681	69,551	77,127	232,060	628,319	2,024,351
Adelbert H. Alden.....	600,535	197,590	200,052	154,907	1,153,084	97,920	18,400	21,480	28,550	166,350	1,319,434
The Sears Pará Rubber Co....	612,720	172,100	139,590	49,784	974,194	—	—	—	—	—	974,194
Brocklehurst & Co.....	113,818	17,393	40,887	3,111	175,209	27,972	4,504	36,046	185,298	253,820	429,029
Rudolf Zietz.....	18,240	8,000	10,600	27,035	63,875	101,997	33,570	33,520	106,599	275,686	339,561
J. H. Andressen, successors...	—	—	—	—	—	177,304	63,365	56,156	33,792	330,677	330,677
Marius & Lévy.....	—	—	—	16,378	16,378	53,002	7,015	80,110	138,391	278,518	294,896
Kahn & Polack.....	—	—	—	—	—	67,130	16,195	29,500	3,467	116,292	116,292
Comptoir Colonial Française..	354	—	—	31,167	31,521	14,790	2,256	5,789	52,686	75,521	107,042
B. A. Antunes.....	29,420	5,800	12,080	8,160	55,460	23,700	5,290	4,960	9,772	43,722	99,182
Luiz Schill & Sobrino.....	—	—	—	—	—	32,303	6,800	12,768	21,538	73,469	73,469
Direct from Itacoatiara.....	—	—	—	—	—	6,240	—	2,060	119	8,419	8,419
Direct from Iquitos.....	—	—	—	—	—	166,478	19,249	159,932	233,713	579,372	579,372
Sundry small shippers.....	71,845	25,960	28,595	8,902	135,302	244,146	56,541	115,012	302,456	778,155	913,457
Total from Manáos.....	2,685,143	759,850	830,098	1,075,630	5,348,721	1,972,360	483,342	787,191	1,820,642	5,063,535	10,412,256
PARA.											
Cmok, Prüsse & Co.....	409,458	90,121	383,933	1,663	885,175	646,413	122,141	184,152	115,692	1,068,398	1,953,573
Adelbert H. Alden.....	683,360	127,783	399,858	14,187	1,225,188	151,870	24,330	60,890	—	237,090	1,462,278
Frank da Costa & Co.....	503,872	69,776	411,884	14,687	1,000,219	117,234	16,358	161,451	11,720	306,763	1,306,982
The Sears Pará Rubber Co....	506,498	63,827	259,081	5,587	834,993	—	—	—	—	—	834,993
Rudolf Zietz.....	64,800	18,717	68,030	—	151,547	146,044	23,982	104,265	28,947	303,238	454,785
Denis Cronan & Co.....	—	—	32,000	—	32,000	180,793	35,916	65,908	—	291,617	323,617
Kanthack & Co.....	—	—	—	—	—	39,663	8,289	6,920	—	54,872	54,872
Comptoir Colonial Française..	—	—	—	—	—	33,576	6,026	4,194	105	43,901	43,901
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	24,713	2,203	3,971	780	31,667	31,667
Pires Teixeira & Co.....	14,631	1,530	6,906	1,330	24,397	—	—	—	—	—	24,397
Neale & Staats.....	—	—	3,600	—	3,600	10,710	850	300	—	11,860	15,460
H. A. Astlett.....	850	170	6,208	—	7,228	—	—	—	—	—	7,228
B. A. Antunes.....	—	—	—	—	—	1,360	635	596	—	2,591	2,591
R. Suarez & Co.....	—	—	—	—	—	620	140	110	—	870	870
Sundry small shippers.....	—	—	—	—	—	19,560	7,860	28,714	3,000	59,134	59,134
Total from Para.....	2,183,469	371,924	1,571,500	37,454	4,164,347	1,381,556	248,730	621,471	160,244	2,412,001	6,576,348
GRAND TOTAL.....	4,868,612	1,131,774	2,401,598	1,111,084	9,513,068	3,353,916	732,916	1,408,662	1,980,886	7,475,536	16,988,604
Total, Jan.—June, 1900....	2,633,971	467,106	1,603,010	471,294	5,175,381	3,050,250	636,986	1,177,656	490,236	5,355,128	10,530,509
Total, Jan.—June, 1899....	3,475,867	497,917	1,825,055	539,697	6,338,536	1,795,300	275,371	674,704	358,077	5,103,452	9,441,988
Total, Jan.—June, 1898....	2,880,595	539,466	1,512,627	590,592	5,523,280	3,025,671	532,549	1,292,071	787,354	5,637,645	11,160,925
Total, Jan.—June, 1897....	2,839,016	650,621	1,552,739	646,942	5,689,318	3,038,906	625,579	1,258,703	863,332	5,786,520	11,475,838



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TWELVE YEARS OLD.

WITH this issue THE INDIA RUBBER WORLD completes the twelfth year of publication. In this era of constant change, it is something of an achievement to keep a newspaper going for twelve years, under the same name, in the same form, and without departure from its original policy, and especially without change in its editorial control.

Last, but not least, among the elements of continuity in the career of this journal, is that part of its patronage which dates from the first issue. We have more subscribers and advertisers to-day, but none whose support is more cordial, or more highly appreciated, than that of the original band, recorded on the books of this office before there really was an INDIA RUBBER WORLD. The fact that this support has been unflinching, we cannot regard otherwise than as evidence that the paper has lived up to its program, and this of course is more important than the mere fact of having kept the paper going all these years.

While congratulating ourselves, we must also congratulate the trade upon its generally prosperous condition, its marked growth since this date in 1889, and the promise which exists of continued development. The demand for rubber goods grows all the while, not only for the older staples but for new classes of goods—not only in the old consuming districts but in new markets. As the world grows older there is room for more rubber factories, there are new problems to be worked out in the manipulation of rubber, and there is new work to be done in supplying the increasing demand for rubber. It is a good business, all around, for those who are qualified for it, and such conditions are most gratifying to the journalist whose business it is to record the progress of any industry.

THE OTHER SIDE OF THE QUESTION.

IT is borne upon one frequently, no matter how strong one's prejudice may be, nor how firm one's faith, that there are two sides to every question. Take, for example, the question of allowance of unfair claims. Any rubber manufacturer who makes an ironclad rule that no allowance shall ever be made, is quite likely to be the loser thereby. For example, a company whose business runs into many millions yearly, received a claim from one of their most important customers, amounting to thousands of dollars. It was wholly unfair, and the moving spirits in the company were exceedingly indignant. A junior official was sent down to reason with the claimant, but made no impression. At the same time he was convinced that they were conscientious in their attitude, even if mistaken. On returning with his report, the majority of the board were most decided in their decision that no such claim should be allowed. The actual head of the concern, however—a silent, reserved man who rarely took part in discussion—had been figuring busily meanwhile, and was able to show that the refusal to grant the claim would result in the loss of business exceedingly profitable, and amounting to more each month than the amount repre-

sented by the claim. On the other hand, the allowance of it would bind good customers still more firmly to the company. The claim was therefore allowed, and the result was as he predicted, and not only that but the claimants nearly doubled their purchases within a year.

The point to be made here is, not that unjust claims should invariably be allowed, but simply that all claims should be considered, particularly when they are put forward in all honesty, and that it is sometimes good business to allow a conscientious customer to get the better end of the bargain.

AN IMPROVING SITUATION.

THE late John H. Cheever used to remark, sometimes, that there was nothing under the sun by means of which one could predict the price of crude rubber; so far as he could see, the sinking of a steamboat on the Missouri river was as likely to affect prices as anything else. Mr. Cheever was a rubber manufacturer for years before an ocean cable existed, before there were any regular crude rubber importing houses, and before the beginning of a good many things that now have a bearing upon rubber prices. In the early days of the industry crude rubber only "happened" in the market. As late as 1865 Mr. Cheever paid \$1.05 for fine Pará in March, 62 cents in July, and \$1 in December. He paid these figures because that was the "market"; as for reasons for the fluctuations, none could be had.

It all seemed like a lottery. Nobody was ever met in the early days who had seen rubber gathered; even the merchants in centers like Pará had not seen rubber trees growing. One did not know when to expect the arrival of rubber from any source, or what it would cost when it arrived. The rubber shoe manufacturers revised their prices four times in one season, on account of fluctuations in the cost of raw material.

All the elements of uncertainty have not disappeared yet, but their number is becoming smaller. For that matter, the price of wheat is not a fixed quantity, and it cannot be predicted certainly very far in advance. But it doesn't fluctuate violently enough to disturb the baker's trade, or render the supply of bread uncertain in any home. No doubt in the near future the rubber situation will be as comprehensible as the wheat situation. It will be even easier to size up existing supplies of rubber than supplies of grain, and as for forecasts, the advantage will be on the side of rubber. When the acreage of wheat is known, the yield is uncertain until after harvest, so much depends upon the weather. But if a given number of workers go into the rubber country under certain conditions, it is probable that about so much rubber will be gathered.

There is not room here for an enumeration of the improved means of transportation and communication that now connect the rubber consuming with the rubber producing countries, very many of which have come into existence since the first issue of THE INDIA RUBBER WORLD. But no longer does a cargo of rubber reach New York without its arrival being known in advance, even if

the rubber is not sold at a fixed price before the steamer starts for this port. Altogether the situation has become a more favorable one for the rubber manufacturer, and further improvement in the same direction seems almost certain.

A REMARKABLE THING about the rubber business is its elasticity. This is not put forth in a humorous vein, nor with the idea of punning. Perhaps the word "adaptability" would express the thought better. For example, the mackintosh business prospered for awhile, a great deal of money was made, but suddenly competition brought it down to so low an ebb that the trade believed that, as a money making proposition the manufacture of mackintoshes offered nothing. Suddenly the windproof coat sprung in, which practically drove the leather jacket out of existence, and mackintosh factories were so crowded with orders that many of them ran day and night. The marvelous adaptability of rubber for almost all purposes was here illustrated, and in it lies the permanence and profitability of the business.

THE EXPORTS OF RUBBER FOOTWEAR FROM the United States during the last fiscal year amounted to 1,469,100 pairs, compared with 175,627 pairs in the fiscal year ended June 30, 1891—ten years ago. The United States has now become the largest exporter of this class of goods, except Russia, not as the result of a sudden "boom," or on account of accidental or temporary circumstances, but because, in spite of the efforts of manufacturers elsewhere, the American production of attractive and serviceable rubber footwear to-day has the preference where the goods have become known. It should be mentioned, however, that the wider acquaintance of other countries with American rubber shoes of late is a result of better methods in conducting an export trade than at some times in the past.

THE SUBJECT OF RUBBER CULTURE is likely to receive an important degree of elucidation in the pages of a new periodical, the *Journal d'Agriculture Tropicale*, of Paris, of which Mons. J. Vilbouchevitch is the very capable editor.

THE NEW RUBBER TRUST.

THE Youngstown (Ohio) *Vindicator* says: "The various conflicting interests are now said to be in a better frame of mind, which, if true, presages a world-breaking deal for the control of the rubber trade of the western hemisphere. A consolidated company would probably be capitalized for not less than \$125,000,000. The present Flint group has a live capital of \$75,000,000."

The Cleveland (Ohio) *World* says: "Heretofore the company has purchased its crude rubber from other concerns. It now proposes to organize the manufacturers of crude with the dividend-paying concerns now in competition with the manufacturing company in one immense concern to control the trade in the United States and beyond it. The consolidation project is generally favored by local holders of the stock. One of them said Saturday to the *World* that the plan has reached a stage where its operation is only a question of time and that if any opposition existed it had not developed."

The Baltimore (Maryland) *Sun* learns from citizens of that town that the Amazon rubber country "has been controlled by the Rubber Trust, which has headquarters at Bristol, R. I., but we have now gotten in there and have about 2000 men ready to go to work upon the property."

“PACIFIC RUBBER” STILL AT WORK.

THE milk flows so rapidly from the enormous trees on the plantations of the “Pacific Rubber Co.” that a pipe line is at once to be installed to connect with the company’s headquarters near Wall street, New York, where it will discharge, so to speak, liquid dividends, and make even brighter the “pipe dreams” of the present investors. The last heavy importation of rubber by the company’s steamer was not wholly successful. The rubber collectors on the plantation had not been able to deal with the rapid flow of milk with their usual care, and in the rush of their work mixed sugar with it, by mistake, with the result that the rubber fermented and bred so many worms that much of the shipment had to be thrown to the birds. With the pipe line at work, the curing of the rubber can be done in New York by more intelligent labor; it is even proposed to have the rubber run into some factory, where it will enter as milk at one end and come out at the other in the shape of finished goods.

But what do the “Pacific Rubber Co.” want rubber for? They have this kind of a scheme:

They will sell as much stock as you want for cash (which they deposit in bank) to the extent of, say..... \$1,000
 They can afford to pay monthly dividends at the rate of 20 per cent. per year, for two years, amounting to..... 400

After which they will have left..... \$ 600
 —minus cost of advertising, printing, and office administration.

It is only necessary that they should sell a good many thousand dollars’ worth of stock, for the company to make a pile of money for themselves. When they have paid dividends out of the investors’ money long enough to have given an indication of good faith on their part—well, other people have failed in business through misfortune, and why shouldn’t the “Pacific Rubber Co.?”

The company have paid two dividends—July 5 and August 5. The price of shares has advanced from \$2.50 to \$3.50. But applicants for stock as late as August 14 were told:

We have, however, some shares which we reserved for parties who gave us deposit on same, and have failed to make up the balance of their subscription, through inability to get hold of the money. We are glad to say, therefore, that we can let you have the amount of stock you ask for, if you can send check for same right away.

No doubt some stock could be had for \$2.49. The “Pacific Rubber Co.” bought the last INDIA RUBBER WORLD at the publication office, but have not as yet filed any protest against the character of the statements about them contained in that paper. But such statements do not concern them greatly, since they expect to do business with a class of people not likely to see THE INDIA RUBBER WORLD. [Confiding elderly maiden ladies out of town, with \$500 or more to invest, preferred.]

But a few persons interested in “Pacific Rubber,” in different parts of the country, did happen to see THE INDIA RUBBER WORLD, and wrote and telegraphed to No. 66 Broadway, New York, for explanations. It would be interesting to know what the “Pacific Rubber Co.” had to say in reply.

THE ECCLES RUBBER AND CYCLE CO.

A REPORT from Europe is to the effect that this company, located at Eccles, near Manchester, has about completed the reconstruction of its works, burned down several months ago. There was much delay in securing a settlement with the insurance companies, and some troublesome litigation with dealers who sued for damages because of the

delay in delivery of balls caused by the fire. The factory is now producing from 70,000 to 100,000 balls per week, and machinery is being laid down for the manufacture of other rubber goods. The unsatisfactory condition of the cycle trade in England has affected the company’s business somewhat unfavorably, and unless a very marked improvement should occur in this trade, it is not unlikely that the Eccles company may discard the cycle fittings branch entirely, and devote itself exclusively to rubber.

TURKEY TO HAVE A RUBBER FACTORY.

THE government of Turkey has granted a monopoly for the erection of a rubber factory in that country. Among the privileges granted are exemption from import duty for the machinery, etc., required in the equipment of the works, and also for the raw material used. The latter is an important item, since the tax on all consumption in Turkey is heavy. Besides the other government requirements in rubber, the company will get the contracts for the army for galoshes, and about 150,000 waterproofs per annum. The galoshes at present used in Turkey are imported almost wholly from Russia and Germany, waterproofs from England, Germany, and Austria, and other rubber goods mainly from Austria and Germany. A report of French origin, some months ago, estimated the total trade of Turkey in Europe in galoshes and waterproofs at over \$200,000 per annum. British trade returns show the following values of rubber goods exports to Turkey:

1896.	1897.	1898.	1899.	1900.
\$132,730	\$193,095	\$172,610	\$98,270	\$63,780

American rubber goods exports to Turkey are confined mainly to overshoes. There were exported direct 8712 pairs in the fiscal year 1898-99 and 7605 pairs in 1899-1900, and it is probable that some American shoes found their way to Turkey through agencies in Europe.

THE LATE HENRY F. DURANT.

IN relation to the mention of the late Henry F. Durant, long the business associate of John H. Cheever in the rubber business, published last month, THE INDIA RUBBER WORLD has been favored by Mrs. Durant with some corrections, which we are pleased to put on record.

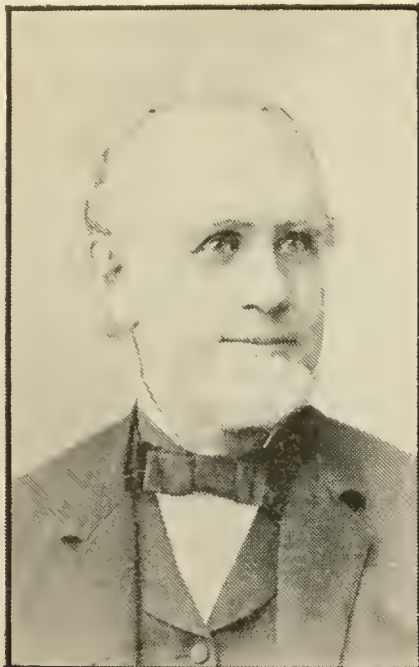
“Mr. Durant was born at Hanover, New Hampshire, not at Lowell, Massachusetts. You state that Mr. Durant provided an endowment income of \$50,000 for Wellesley College. Mr. Durant was entirely unable to make such an endowment, though of course we would have been extremely willing to do so. Mr. Durant left his property for the use of his wife during her lifetime, and a sum for his brother’s use, and for his brother’s daughter, during their lives, all to revert to Wellesley College at their death. Most of the estate was in the New York Belting and Packing Co., which in the reorganization was swept away. Mr. Durant died at Wellesley, Massachusetts, October 3, 1881, not in Boston, October 2.

“Mr. Durant and Mr. John H. Cheever were devoted personal friends from the time they met in early life till parted by death. Mr. Durant’s opinion of Mr. Cheever was expressed in his closing days, when, in sending his last message of affection to Mr. Cheever, he said: ‘I never knew John to do a wrong thing.’”

THE Isthmus Plantation Association (Milwaukee, Wis.) began transplanting rubber from the nursery on June 21. The seeding of a new rubber nursery had been begun on June 13.

OBITUARY.—STEPHEN BALLARD.

STEPHEN BALLARD, who died at his home in Brooklyn, New York, on August 11, was a native of Andover, Massachusetts, where he was born 86 years ago. After having demonstrated his capacity as a business man nearer home, he removed, in 1858, to New York, where he engaged in the



STEPHEN BALLARD.

leather belting business as a member of the firm of Stearns & Ballard. Their office and store were in Pearl street, in the Harper & Brothers building. Later Mr. Ballard conducted the business alone, under his own name, then as Stephen Ballard & Co., and finally as the Stephen Ballard Rubber Co., a line of belting and other goods in rubber having been added to the business. The latter name was adopted in 1883. In September, 1897, the business was incorporated under this name, in New Jersey, at which time Mr. Ballard retired. The president and secretary of the corporation is Silas B. Brown, who had been associated with Mr. Ballard as a partner. The business was, at various times, conducted at several different numbers in Chambers street. Mr. Ballard was the organizer of the White, Porter & Paige Manufacturing Co., in the lumber manufacturing business, in Brooklyn, and was the treasurer of that company at the time of his death. But his chief interest for many years had been in philanthropic work. He was the founder of the Ballard School for Colored Persons, at Macon, Georgia, where thousands of young people have been provided with an education during the last fifteen years. He was a liberal contributor to many other institutions, educational, religious, and charitable. He was a member of the Central Congregational church. He was twice married, but leaves neither widow nor child. Funeral services were held at the late home of Mr. Ballard on the evening of August 12, by the Rev. Willard P. Harmon, of the Central church. The interment was in his native town of Andover. Mr. Ballard, by his will, left his estate to various institutions in which he was interested, after making specific bequests to a surviving brother and sister, and to his housekeeper. The portrait above appears through the courtesy of the Brooklyn *Eagle*.

JAMES LYALL.

JAMES LYALL, president of J. & W. Lyall, cotton manufacturers, died at his home in New York, on August 23, aged 65 years. He was born in Scotland, was brought to the United States in childhood, and devoted his life to the cotton industry, in connection with which he made many important mechanical inventions. His firm are owners of the Brighton Mills, located for many years in West Twenty-third street, New York, and

since January 1 last, at Passaic, New Jersey. The Brighton Mills have been the largest producers in this country of tire fabrics, and the firm came in close contact with a certain portion of the rubber trade through coöperating with it in the development of the pneumatic tire industry.

RUBBER INDUSTRY IN MASSACHUSETTS.

THE Massachusetts bureau of labor statistics has issued a comparison of returns for 1899 and 1900, from a great number of factories reporting for the two years. The report is not a complete census of Massachusetts manufactures, but it is sufficiently full to indicate the tendency of changes in industrial conditions from year to year. Forty two rubber factories give returns comparing as follows:

	1899.	1900.
Capital employed.....	\$11,817,027	\$11,804,952
Value of stock used.....	\$14,556,071	\$13,661,362
Amount paid in wages.....	\$ 3,898,556	\$ 3,555,633
Value of goods made.....	\$23,838,400	\$22,863,098
Average number of employes.....	9,223	8,608
Average yearly earnings.....	\$422.70	\$413.06
Average number of days in operation.....	269.46	265.72
Proportion of business done to capacity....	71.18	63.77

While the figures in this report are presented without comment, it may be mentioned that they conform to the indications already pointed out in THE INDIA RUBBER WORLD, that, considering the rubber industry in the United States as a whole, 1899 was a "record" year, the results of which were not equalled in the following year. The following comparison of average yearly earnings in rubber factories in three States in 1899 is also gained from the Massachusetts report:

Massachusetts.	Connecticut.	New Jersey.
\$422.70.	\$481.70.	\$431.31.

The complete report of the Massachusetts state census for 1895 is now published. Seventy-six rubber manufacturing establishments are taken into account, but some of these could not have been very important. The figures for 1895 follow:

Capital employed.....	\$12,038,874
Value of stock used.....	\$15,588,553
Value of goods made.....	\$24,967,119
Amount paid in wages.....	\$4,555,991
Average number of employes.....	10,504
Average yearly earnings.....	\$433.74
Average number of days in operation.....	270.3
Proportion of business done to capacity.....	62.67

THE NEW MEXICAN RUBBER PLANT.

A CORRESPONDENT of THE INDIA RUBBER WORLD writing from Saltillo, state of Coahuila, Mexico, says that Dr. Juan Cabello Siller, of that city, is trying to form a company to erect a factory for extracting the product of what is known locally as the "guallule" plant, being the same as the shrub described as "hule" in THE INDIA RUBBER WORLD of June 1, 1901 [page 264]. It is understood that the free importation of all necessary machinery will be allowed by the government, with exemption from taxes for five years. This new Mexican rubber producing plant will be exhibited at the Texas state fair, at Dallas, this month. A factory is already in operation for utilizing this plant, at San Luis, in the state of San Luis Potosi, Mexico, which has been referred to in this journal.

A TRAY made of rubber for flower pots has the advantage that it does not scratch or mar any wooden surface upon which it may be placed, as is likely to happen in the use of earthenware or fiber trays. Such an article is made in different sizes to retail at from 8 to 15 cents.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE writer of "Heard and Seen in the Trade," quotes a manufacturer who speaks in an optimistic tone with respect to the position of the American trade. "Every day," he says, "new uses for rubber arise and there is room for half a dozen new factories." Perhaps for a country like America, which has not yet to send a surplus population to seek a footing elsewhere, the trade is susceptible of development; over here, however, the more astute manufacturers opine that in contradistinction to the starting of new factories a boon would be conferred on the trade if some of those now in existence were to be damped down, to borrow a metallurgical expression. "Not only have we too many factories for the trade that is to be done," said a man whose opinion carries weight to me, the other day, "but we suffer a good deal from the inclusion in the trade of men whose antecedents and training point to their being seen to more advantage in other spheres of life." He emphasized his remarks by mention of individual names which cannot, of course, be reproduced here, in fear of the thin thread by which the law of libel is suspended over the editorial head snapping in twain. No doubt, however, there is much truth in the observation. A certain director once laughingly said to me: "I am like the fly in amber. I don't know however I got into my present position." It would be an interesting, though invidious, study to examine the qualifications other than family influence or financial position which are possessed by those who rule the destinies of our rubber works; much light might be thrown by such an investigation upon the apparently obscure causes which have tended to bring about the divergent financial results which are so strikingly exhibited in the balance sheets of the different factories. It would, however, be an unwarrantable intrusion into private affairs to carry any such suggestion into practice; at least that is the view of the matter which would be taken on this side, even in the present year of grace, when certain features of transatlantic journalism at first violently jibbed at are now placidly accepted as a matter of course, if indeed they are not eagerly anticipated.

I UNDERSTAND that Messrs. James Bertram & Son, Limited, of Leith Walk Foundry, Edinburgh, are supplying the double-acting, or three roll, mixing mill patented by Mr. Joseph Thomas Wicks to some rubber factories. It is claimed that the use of a three-roll instead of the ordinary two-roll machine effects a considerable saving of time, and therefore of cost of labor, the saving in fact being estimated at 50 per cent. The increased power necessary for driving is said to be very slight, though this must not be left out of consideration in calculating the comparative efficiencies of the old and new systems. The claim is made that the saving in labor will during the first year pay for the increased capital outlay. I hope to be in a position before long to say more upon these points from personal observation; certainly the more the time of mixing is shortened, provided that the work is properly carried out, the better for the rubber, for there can be no doubt as to the reduction of tensile strength and power to resist decay that is brought about by over-mastication. Mr. Wicks has also allowed his inventive genius to expand in other directions, though space does not permit of more than a bare notification of one other patent—that for jointless moulded air tubes for pneumatic tires.

POSITION OF THE TRADE.

THE last few years have seen the erection of four or five naphtha recovery plants in English rubber works. It has long been a moot point whether this capital expenditure was really justified, but from the results obtained in the most recent of these plants there can be little doubt that the departure is amply justified. Modern practice, largely permeated by the essence of experience, has effected improvements giving an economy in working which was not obtainable in the case of plants erected over twenty years ago. One of the oldest of such plants was that put up by Mr. Quin, at the Leyland Rubber Works, but it is doubtful if it every really proved itself a success. Messrs. Moseley had also for many years a plant of a somewhat unique character which gave fairly satisfactory results, though this has recently been replaced by one of more modern type. It may be mentioned that the recovery figures obtained in England all refer to ordinary solvent naphtha, and not to any light spirit. There is no reason to suppose that plant could not be designed to deal with this latter, but in proportion as the first cost of the spirit is lower, so the expense of the recovery plant would be higher, not only in capital expenditure but in the regular coal bill. It depends largely upon the circumstances of the factory whether the use of such plant is advisable or not, and each case must be judged on its merits. What has been done of late years in this direction, however, must be taken as proof positive that the scepticism which prevailed in former times as to the economy of recovery plants is unwarranted under the changed conditions of to-day. It may be taken for granted that the naphtha distillers do not view the increase of recovery plants with unfeigned bliss.

THE report on Uganda recently presented to the House of Commons by Sir Harry Johnston, the Commissioner, touches at some length upon the prospective rubber exports. *Landolphia* and allied plants are said to abound over about one-fifth of the protectorate, and the rubber is said to be valued at from 2 to 3 shillings per pound. He is against the granting of concessions to individuals or associations, for the present, at all events, advocating rather that the natives should be allowed to collect the rubber and sell it to all and sundry, under proper supervision. I rather suspect that the proper supervision will be found the difficult part of the arrangement, but to let that pass. He is also in favor of a reasonable maximum price being charged by the natives to the buyers, 9 pence a pound being his suggestion as this limit. This proposal seems to initiate a new departure, and it will be interesting to see how it is received by those primarily interested.

AS far as the India-rubber trade is concerned, in this very successful exhibition, there is not only an extreme paucity of exhibitors—the total amounting to three—but an entire absence of anything which calls for attention as a novelty. Without anything to show of an epoch-making character, it is rather difficult for a rubber manufacturer now-a-days to make a show of a character to attract and interest the public, and the expense and time involved in the attempt are recognized as being rather ill-bestowed. If the exhibition is remarkable for novelties in one direction more than another, it is perhaps in the collection of fibers of various sorts from our colonies, and for which it is

NAPHTHA RECOVERY IN RUBBER WORKS.

RUBBER IN UGANDA.

GLASGOW EXHIBITION.

sought to find some industrial application. In furthering such objects it seems that exhibitions fulfill one of the main functions which they should seek to serve.

I NOTICE that a prominent firm in this manufacture in the United States is now engaged in advocating the use of their product among British rubber manufacturers. It is now some years since the writer experimented with this variety of white lead as a substitute for the ordinary hydrated carbonate, and the trials proving satisfactory, some quantity of it was used in one of our largest rubber works on his recommendation. It may be mentioned that the brand so used was that manufactured by the now defunct White Lead Co., Limited, of Porril Park, Glasgow, the composition being that of sulphate of lead mixed with a small proportion of oxide. Of course the sulphate is incapable of fixing free sulphur, as the ordinary white lead and litharge can, but this did not militate against its use in the particular mixings where it was employed. However, it should be mentioned that the general trend as regards the use of lead compounds of late years in rubber works has been to discard red lead and white lead, and to rely principally upon litharge, so that I do not think there is very much scope for the sale of the American product in this country. A good deal of money was dropped over the Porril Park works, as, in spite of favorable reports from various quarters, it was found impossible to get the large paint users to take up with it permanently. What the position is in America in this respect I do not know; it certainly was hinted that 'vested interests had something to do with the difficulties in which the British company found itself.*

THIS trade is probably not at all a large one, as far as actual bulk goes, but the wholesale dental supply firms manage to get a pretty good profit from their customers. I am not in the secrets of the business, but I don't suppose that the rubber manufacturers come so well out of it as the middlemen do. The two principal classes of goods are the pure rubber sheet, professionally known as the "dam," which is applied to the mouth of the victim during the operation of stopping, and the unvulcanized compound rubber which forms the frame work for artificial teeth, the curing being effected on the dentists' own premises. The principal dentist middleman is the old-established firm, Claudius Ash & Co., recently converted into a limited company under the title of the Dental Manufacturing Co., of London, Manchester, and Dublin. A recent novelty is a rubber dam having one side covered with aluminium powder, so as to give a better light to the dentist during his operations, though it does not seem that the special advantage is universally recognized. It cannot be said that the average dentist, though he has to work a good deal with rubber, has any real knowledge of the substance or its manufacture. In one respect, at least, the advertising American dentist, who is not very kindly spoken of by his British brethren in those towns where they are established side by side, seems to show more cuteness than his confrère. I refer to the prices he pays for his materials. In buying rubber compound at a lower price than the British dentist does he may, as the latter suggests, get a very inferior compound,

*Our correspondent's view of the uses of sublimed lead is exceeding interesting, as reflecting the present attitude of English rubber manufacturers toward all forms of lead. In a measure, the practice in England is similar to that to-day employed in the United States. That is, white lead, pure and simple, is not used in nearly the quantities that it formerly was, whereas, litharge is very generally used. But at the same time, sublimed lead has created for itself a large and very important place among American manufacturers, and there is no doubt but its intelligent introduction abroad will result in a very large increase in its consumption.

—THE EDITOR.

but at the same time it is possible that he gets very much the same stuff without paying any middleman's profit. However, it is beyond my purpose to pry needlessly into professional secrets, and the excuse for referring to the subject at all is that these notes are intended to be of an all-embracing character and to include in their scope any of the multitudinous purposes to which rubber is put.

I REGRET to record the death of Mr. Harry Heaton, Sr., the founder of the original Capon Heaton & Co. rubber works, at King Horton, Birmingham, now the Tubeless Pneumatic Tyre and Capon Heaton, Limited—a firm which after an unsatisfactory life of a few years, is at present being carried on by the liquidators. Mr. Harry Heaton, Jr., managing director of the Gorton Rubber Co., Manchester, is a son of the deceased.—Mr. Pratt, recently works manager of the St. Helens Cable Co., has now severed his connection with that firm.—Mr. David Moseley, of Manchester, having recovered from his long and severe attack of typhoid fever, has now returned to business.—I regret to record that Messrs. H. H. Royle & Co., Limited, of Manchester, have found it necessary to call a meeting of their creditors. The business is a comparatively new one, having been started but eighteen months ago, and it was concerned with making up waterproof garments, mostly of the rainproof type.—Mr. Jones, whilom manager for McLellans, of Glasgow, and the Fowler Waring Co., of North Woolwich, is now engaged by the Volenite company at their works near Wembley, where it is said he is bringing out a new compound. Certainly, to judge by the very moderate degree of success which "Volenite" attained, there is room for improvement, but I shall not, I imagine, be alone in adopting a sceptical attitude towards the new compound also in the light of the numerous similar cases in the past where realization has fallen far short of anticipation.

THE old established private company of Broadhurst & Co., Bradford, Manchester, had to call a meeting of creditors on July 24, the result being the appointment of a committee of inspection. At the same time the affairs of Messrs. C. H. Scott & Co., the rubber substitute and chemicals manufacturers, were enquired into, Mr. James Robinson being the moving spirit in both concerns. The rubber firm of Broadhurst has a life of over thirty years, and it is to be hoped that means will be found by which the firm can emerge from their present difficulties. With regard to Scott & Co., the pioneers in the substitute industry, it cannot be expected in these competitive days that the era of prosperity existing in the life time of the late Mr. Samuel Scott will be reproduced. The fact seems to be that the rubber substitute and recovered rubber business is overdone, that is as far as those dealing in these commodities are concerned; the rubber trade doubtless looks leniently upon the internecine competition now existing as conducive to their own advantage.

THE British Celluloid Co. are reported to have selected a site in the vicinity of Swansea for their works. I don't know whether the popular game of ping pong has enhanced the prospects of the manufacture, but a good deal of celluloid in the form of rackets and balls must be used up in connection with this novel pastime.

A RECENT decision of the United States general appraisers at New York, in relation to an importation of Chatterton's compound, held it to be dutiable as merchandise composed in chief value of Gutta-percha—at 35 per cent. *ad valorem*—and not as a chemical compound, as claimed by G. W. Sheldon & Co., importers, of Chicago,

SOLUBILITY OF CAOUTCHOUC AND GUTTA-PERCHA.

By Dr. Theodor Koller.*

DILUTED acids and concentrated alkalis do not attack Caoutchouc, either at ordinary or at raised temperatures. Concentrated sulphuric acid decomposes it, likewise concentrated nitric acid. Six parts of fuming nitric acid give, with one part of Caoutchouc, a solution, with effervescence, which is precipitated in a flocculent state by water. When Caoutchouc is digested for some time with spirit of sal-ammoniac, it passes into an emulsion-like condition, and gives a liquid with it, which leaves pure Caoutchouc upon evaporation. Neither cold nor hot water dissolves Caoutchouc, though boiling water extracts from several varieties some resinous substance. In warm water it becomes very soft, and swells considerably, making the whole mass more accessible to solvents, but prolonged exposure to the air restores it to the former state.

Payen found that a thin disc of Caoutchouc upon lying in water for thirty days absorbed 18 to 26 per cent. of water, and that in case of an absorption of 18 per cent. its volume increased 15.75 per cent. and its length 5 per cent. Absolute spirit of wine penetrates Caoutchouc still more rapidly, especially when it is repeatedly heated with it to ebullition. The weight of the piece increased 18.6 per cent., the volume 9.4 per cent., the length 4.6 per cent., the spirit even dissolving 2 per cent. of the Caoutchouc besides. In ether, turpentine oil, and a mixture of 100 parts of carbon-sulphide and 4 parts of absolute spirit of wine, it swells up to 27 times its volume; in a mixture of 6 volumes of anhydrous ether and 1 volume of absolute spirit of wine to 4 times its volume; in rectified coal-tar oil up to 30 times its volume. Ether, benzine, carbon-sulphide and turpentine oil quickly permeate Caoutchouc and cause it to swell up strongly, a portion being dissolved, but tenaciously held back by the insoluble one, so that for extracting it large quantities of the solvent are required. According to Payen, Caoutchouc soaked in carbon-sulphide dissolves rather quickly in spirit of wine. In 6 to 8 parts per 100 parts of carbon-sulphide it is again precipitated from this solution by admixture of double the quantity of spirit of wine, but it encloses much carbon-sulphide and spirit of wine, so that it subsequently dissolves again. By repeated precipitation and re-dissolution it can be obtained in a transparent solution free from dyestuff, and the other substances occurring with it. Parkes recommends as dissolvent the liquid, which is obtained when sulphurous gas is conducted over camphor until the latter has deliquesced entirely. In fats, volatile and unctuous oils it also swells up considerably, dissolving in many; it dissolves very well and easily in Caoutchouc oil obtained by the dry distillation of Caoutchouc.

As a rule, Caoutchouc is dissolved by lavender oil as well as by turpentine oil, but by linseed oil only when warm. Bouchardat has made the observation that turpentine oil, by repeated distillation at a higher temperature, alone or over bricks, undergoes a change, which renders it far more suitable for the dissolution of Caoutchouc. With all dissolvents attention should be paid to an absolute freedom from water; it is also advisable to dry the Caoutchouc for some time, before the dissolving, and very commendable are a previous boiling with soda solution or caustic soda lye and careful washing and drying. Most solvents do not dissolve the Caoutchouc completely. If a complete dissolution of the Caoutchouc is effected at a higher temperature it suffers a decomposition, the solutions do not con-

tain unchanged Caoutchouc and on evaporating leave behind a mass of softer consistency and absolutely different qualities, so that it dries only with difficulty, even in thin layers.

According to Hanausek, oil of turpentine and coal benzine are especially good solvents for Caoutchouc; 100 parts of oil turpentine or coal benzine dissolve about 4 to 5 parts of Ceará rubber, 5 parts of negroheads, 4.7 of Sierra Leone rubber.

The most suitable solvents are ether (free from alcohol), chloroform, carbon sulphide, coal benzine, and purified turpentine oil. For industrial purposes solutions in ether are useless. Turpentine oil only dissolves when very pure and used hot. To prevent the viscousness of the solution, 2 parts of turpentine oil has to be worked together with 1 part of Caoutchouc into a thin paste and $\frac{1}{2}$ part of a hot, concentrated solution of potassium-sulphide added. When the yellow liquid has thickened, the Caoutchouc remains perfectly elastic and is not viscous. If it is desired to unite pieces of Caoutchouc, the best solvent is coal benzine, but the odor remains perceptible for a long time. Chloroform being too expensive for ordinary use, carbon sulphide is the best dissolvent. The solution dries quickly owing to the volatility of the solvent. When alcohol is mixed with the carbon sulphide, it does not exercise any dissolving action, but only renders the Caoutchouc softer and more fit for vulcanization.

The preparation of a Caoutchouc solution is performed as follows: Fill pure Caoutchouc, cut in small pieces, in a spacious linen bag and suspend the latter by means of a thread, in a bottle containing 1 liter of benzine, in such a manner as to completely immerse it. After six or eight days the soluble part of the Caoutchouc (40 to 60 per cent.) has been extracted and the insoluble residue has swelled up to an enormous size. The clear, slimy solution containing 1.2 to 1.5 per cent. of dissolved Caoutchouc is subsequently kept in the dark. In the light the Caoutchouc solution decomposes, becoming quite thinly liquid; even in the dark a change takes place, but much more slowly.

In order to bring the total of the Caoutchouc mass to a solution, Hoffer causes Caoutchouc to swell up in carbon sulphide (the swelling will take place quicker if the well closed flask is allowed to stand in a moderately warm place) and adds, after this end has been attained, 10 per cent. of absolute alcohol for every 100 parts of carbon sulphide. After a few days a complete solution will have formed in the flask, from which, after prolonged rest, all foreign admixtures will settle to the bottom. If the solution is mixed with a large quantity of alcohol, the latter will precipitate the Caoutchouc again in a swelled state, while the foreign bodies remain dissolved. By pouring off the brownish solution from the precipitate, dissolving the latter again and repeating the precipitation several times, the Caoutchouc is obtained free from dyestuff as a perfectly white or only faintly yellowish mass.

It being desired to employ turpentine oil for the preparation of Caoutchouc solutions, the same must be free from water (the Caoutchouc itself may be kept anhydrous by drying it for a week previous over sulphuric acid).

The dehydration of the oil of turpentine is conducted in the simplest manner by shaking the oil with about 10 per cent. of its weight of English sulphuric acid in a well closed flask and leaving

*Translated for THE INDIA RUBBER WORLD from a paper in *Neueste Erfindungen und Erfahrungen*, Vienna, VII Jahrg. (1900), pp. 293-296.

stand until required for use. The sulphuric acid will form a layer on the bottom of the vessel, from which the turpentine oil may be drawn off. In place of the sulphuric acid melted calcium chloride may be employed with equal success. If large quantities of turpentine oil are to be treated it is advisable to rectify it over burnt lime and to pass the vapors of the oil, before condensation, through an almost red-hot iron pipe. This changes the character of the oil, rendering it still more suitable for dissolving Caoutchouc.

Gutta-percha is insoluble in water, dilute acids, and alkalis; it gives off 22 per cent. of soluble substances to alcohol and ether, and swells up in ether and essential oils to a tough paste. It is readily soluble in chloroform, carbon sulphide, benzine, and turpentine oil upon heating. It is little soluble in hot unctuous oils and separates out again after cooling. From the solution in chloroform, Gutta-percha can easily be obtained colorless.

RUBBER ON SHIPS' SCREW PROPELLERS.

THE use of India-rubber for the protection of propeller shafts in steamships against corrosion, first developed in Germany, has extended until the practice has been adopted in the navies of France, Germany, Russia, and Italy, as well as on a number of fast ocean liners. Propeller shafts working in the stern tube under the usual conditions of the presence of salt water, require to be examined frequently and with great care, to detect evidences of corrosion. Besides, the galvanic action between the immense masses of gun metal used in connection with steel shafts, on high speed steamers, eats into the shafts. The average life of a propeller shaft is declared to be less to-day than at an earlier period of slower speeds, when iron was used instead of steel, and when shorter and thinner gun metal liners were sufficient. All experience points to the impossibility of absolutely excluding the corroding salt water from contact with the propeller shafts, but there is still another consideration.

The liner of a propeller shaft is a cylindrical casting of dead rigidity, while the shaft in motion, with its thousands of horse power, struggling with the varying load of resisting water, is a living thing, and, like a living thing, it alternately yields and presses forward. Its living work is its resistance to torsion. At the engine end it receives its torsion, which the load of resistance at the propeller end tries to destroy. Hence the movements in the surface of the propeller shaft are sufficient to loosen the gun metal liners, in case they should be joined to the shaft. No amount of soldering or fastening could ever make the dead rigidity of the liner or sleeve follow the movements of the shaft in motion when torsion sets up surface movements between the front end and the rear end of the sleeve. Hence it would be desirable to have for the protection of shafts an elastic covering, indestructible by sea water, and chemically combined with the surface of the shaft. It should be of so elastic a nature as to follow all surface movements of the shaft without any tendency to cracking, pitting, or exfoliation. Such a covering is described in the lines following.

At the second annual meeting of the German Naval Architects (Schiffbautechnische Gesellschaft), a paper on rubber in shipbuilding was read by Herr Ed. Debes, director in the Harburger Gummi-Kamm Compagnie (Dr. H. Traun, proprietor). In connection with other subjects, he treated of the use of rubber for the protection of propeller shafts against corrosion, for which a patent was granted in Germany in 1894 to an engineer named Willenius. The invention, as at first tried in the German navy, did not prove successful. The rubber expanded and contracted too much with varying temperature, so that the

sea water could get between the shaft and its sleeve. The Harburg company, however, appear to have overcome this difficulty. The application of the elastic sleeve is effected as follows: The rubber used is the company's "Eisengummi (iron rubber) No. 68," with a specific gravity of 1.5, which shows an abnormally high insulation and also remarkable strength. It gains in breaking strength on heating up to 90° Centigrade. This rubber, having been heated upon a spreader until it becomes plastic, is wrapped around the shaft, which has been cleaned with benzine or turpentine. The whole is wrapped with tin foil to exclude all moisture during vulcanization. The steam pressure is raised to about 40 or 50 pounds within an hour and maintained at that figure for about three hours. The vulcanization boiler is then taken off, the tin foil removed, and the shaft is ready for use. The rubber sleeve adheres well, and does not break off under blows, but chains or coral reefs would damage it. It is, however, impervious to salt water, while having sufficient elasticity to counteract the effect of an otherwise rigid shaft acting upon an equally rigid sleeve or lining.

LUGO RUBBER AS KNOWN IN ENGLAND.

LUGO, an artificial rubber, is a product of the United States, in which Mr. O. Lugo, of New York, and Dr. Sharps and Mr. Chase, of Philadelphia, appear to be interested. We rubber manufacturers in England are also interested in this new product, in so far as it behooves us to carefully test it to see if it has any advantages over the materials in present use. The writer has personally made several careful and very minute tests, ranging from 5 per cent. to 30 per cent. of Lugo to the amount of rubber employed.

We find, in taking 25 per cent. of Lugo and all Pará rubber and comparing the result with 25 per cent. of best black substitute and all Pará rubber, that the two results are almost identical. There is really nothing to choose between them. We should keep to the best black substitute for the simple reason that we have known it for years and know what it is capable of. However, when we leave all Pará rubber as above, which is a pure mixing, and change to rubber and powders, introducing Lugo or black substitute in various proportions as the case may be, then we find a remarkable difference. Lugo does not answer so well with powders as black substitute.

Lugo and oxide of zinc appear to be antagonistic. Certainly, in several tests they have not agreed together. In our judgment the oxide of zinc has controlled the Lugo and gone far to decompose it, rendering the cured articles flabby or lifeless. The addition of litharge to the mixing does not prevent this destructive action.

Lugo lacks strength and it wants body. We fail to see the advantage of the process known to the inventor as hydro-saporification; this process seems to be carried too far. The small percentage of glycerine, if left in the Lugo, would do no harm to rubber compounds. There are processes in the rubber manufacture in which a small percentage of glycerine is added, but it is a drug requiring skill and experience in its use.

This is an honest criticism, and the writer would be the last to do anything which he thought might deter Mr. Lugo and his friends from pushing his experiments and inquiries with oil substitutes to a much desired and successful issue.

A FACTORY MANAGER.

England, August 9, 1901.

THE British postmaster general has applied for permission to tear up London streets to substitute lead covered cable for Gutta-percha covered telegraph wires in the postal service.

PLANTING "CASTILLOA ELASTICA" IN OPEN PATHWAYS.

By Francis Child Nicholas, Ph. D.*

TO THE EDITOR OF THE INDIA RUBBER WORLD: On the rubber estates belonging to The South American Land and Exploration Co., Limited, the following results have been obtained: Rubber trees (*Castilloa elastica*) on the company's property in the Sierra Nevada de Santa Marta of Colombia are now two years old. The company has had the advantage of almost unlimited lands for its operations. The seeds were collected in Costa Rica, and reached the property in fair condition; after their arrival planting was commenced almost immediately. The plan adopted was to cut pathways through the forests by the side of streams, and along rivers. The seeds having sprouted before they reached the property, there was urgent necessity to plant in haste.

The seeds were put in the ground about the middle of June, 1899, and the paths were cut with a view of maintaining a deep shade to protect the young trees for the first four months, July, August, and a part of September, being dry and hot in that region. It was intended, when the autumn rains should set in, to cut away overhanging trees and underbrush for the purpose of providing sufficient sun and plenty of air for the development of the young trees. Where the seedlings were too close together, cross paths were to have been made for transplanting. Before these plans could be carried out, the civil war, so lately disastrous in Colombia, made it necessary to suspend operations, and for eighteen months the young rubber trees were almost abandoned. The only thing that could be done was to clean away the dead leaves, which, falling from surrounding trees, threatened to smother the seedlings; but even this work was not thorough, and for months at a time the young rubber trees were without any care.

Work was resumed on the company's plantations during the spring and early summer of the present year, and is now being regularly carried on. It was found on cleaning up the rubber plantations that, while losses had been heavy, there were thousands of young rubber trees, and that some of them were doing remarkably well, showing the first developments of that enormous length of trunk, found among trees of the forest which have grown upward until the sunlight above the woodlands has been reached—a condition that produces a great length of trunk for bleeding, promising pounds of rubber where less favorable trees would yield only ounces. Many varied conditions of development were found at the company's plantations, the most important being as follows: Trees on moist, but not wet land, where the surrounding forests had been opened to allow a fair amount of sunlight, but not enough to burn the young trees, were the best. At such places many of the trees presented a growth sufficiently vigorous to promise the development of strong rubber producing trees without any further attention. After these the most favorable were those trees growing on moist land, but with the sunlight and free circulation of the air impeded by the surrounding forests; these, however, were doing well, and while their growth was not phenomenal, it was very satisfactory. Trees showing a rather

unfavorable development were those on moist ground but too much in the open sun. Growth had been vigorous, but there were too many sunburned buds to give much promise of successful maturity. Of very poor development were trees growing in rather dry places in the hot sun. Many of these were dead; the few that remained were very small, some being only two or three inches high. Of very bad appearance were those trees which were on rather dry land in the deep shade, almost entirely cut off from the sun. Nearly all of these were dead; among the very few remaining alive none were vigorous, many had not progressed beyond the first stages of growth, though wood was forming where the tender shoot had been; they were simply dwarfed trees, that had never progressed after the cotyledons had been absorbed.

It appears from these results that, under ordinary circumstances, the *Castilloa elastica* requires for its best development damp soil, open shade, and some sunlight. The best trees on the plantations of the South American Land and Exploration Co., Limited, at their Sierra Nevada de Santa Marta properties, are on rather damp land, and have had about one hour's full sunlight each day. The very favorable results that have been obtained on these plantations, after subjecting them to nearly eighteen months' abandonment, is to my mind strong evidence that the best method for planting *Castilloa elastica* is along open pathways through the forests, which enable the planter to make an adjustment of shade and sunlight suitable to the special requirements of the locality selected for planting; and further I am fully convinced that to clear all the land and keep it clean is a useless expense, that a series of pathways intersecting at right angles will give quite as many trees to the acre as on cleared land; and, that under some climatic conditions at least, too much sun will burn the tender buds of young rubber trees; and, influencing older trees, will harden the bark, thereby checking the flow of latex through the ducts, which in *Castilloa elastica* are just under the bark; a condition which when the bark is too hard may impair the tree's capacity to produce rubber.

While I advocate open pathways for *Castilloa elastica*, justice to all conditions requires a brief notice of results obtained at plantations in Jamaica, owned by the same company. These plantations are in Portland parish, where rains are excessive, the ground usually saturated with water, and penetrating fogs are frequent. Here the most vigorous among the young rubber trees are those where there is an abundance of sunlight. At places where there is some shade, the trees are vigorous and healthy, but are not so large as those in the more open places; their leaves are a deeper green, and perhaps they are rather more healthy than those grown in the sun. Trees which were planted where there is a very limited amount of sun, are straggling and unhealthy. In the few places where there is little, if any sun, the trees are nearly all dead.

The advantages of open pathways were demonstrated in Jamaica; for, on my last annual inspection of the company's properties, it was a simple matter to order that overhanging branches should be cut away to provide sufficient sun to meet the requirements of this region, and at present all the company's trees in Jamaica are growing vigorously.

These results furnish strong evidence that *Castilloa elastica* requires an adjustment of sunlight and shade, varying with the

* The writer of this article has previously contributed two papers to THE INDIA RUBBER WORLD, as follows: "Some Recent Developments in Rubber Cultivation" [October 1, 1898, —page 337], pointing out his reasons in behalf of the method of planting, the results of which are here noted, and "Transportation of Seeds of the *Castilloa elastica*" [April 1, 1900—page 180], recording his experience in conveying such seeds from Costa Rica to Colombia.—THE EDITOR.

climate, and the geological conditions of the region that has been selected for planting. Whether the best means of providing this adjustment is to be found in open pathways, is, perhaps, not fully proved; but at any rate they have given good results at the plantations which are being developed under my direction.

AN OLD SWINDLE RECALLED.

ONE of the first, and about the biggest, of the frauds which have been evolved in the name of rubber planting—"India-Rubber (Mexico), Limited"—is still mentioned now and then in connection with meetings that are to take place, but never do. London *Financial Times* says: "Only a little longer, and there will be nothing to meet about." Adolpho Keul, former manager of the company's estates, writes to the *Mexican Herald*: "India-Rubber (Mexico), Limited, has not entirely given up the Llano Juarez estate [as stated in the London paper]. They only stopped work, and are now breaking up the land for the purpose of leasing it out. The improvement of the Esmeralda estate continues without interruption." But this is small satisfaction for the confiding English public, which bought the company's shares four years ago, on the promise that by this time there would be marketed, from trees then mature, rubber worth \$3,497,495—and that mostly profit.—A circular had been issued to the stockholders of India-Rubber (Mexico), Limited, inviting them to a meeting on August 30, to consider a voluntary winding up of the company. Prior to that date, a Mr. Peat had been appointed receiver and manager of the company, on the petition of the debenture holders. The company had never paid a dividend and they were unable to pay the interest on debentures for the first half of the current year. Hence the motion of the debenture holders, to protect their interests.

PARA RUBBER IN THE MALAY STATES.

THE fourth annual report of the United Planters' Association of the Federated Malay States, for the year 1900, comes to THE INDIA RUBBER WORLD from Kuala Lumpur, in Selangor. It expresses encouragement with regard to the prospect for Para rubber (*Hevea Brasiliensis*), the committee stating that they "feel that the large number of trees, amounting now to several millions, planted in the Federated Malay States, must in the not very distant future, prove a source of revenue which will very largely recoup the planters for the losses which they have sustained through the decline in value of Liberian coffee." The average circumference of such trees, at three years at three feet from the ground, is stated at about 16 inches. In two years a Para rubber tree in the botanic garden at Penang, being fifteen years old at the second tapping, yielded 12½ pounds of rubber, "without any apparent injurious result to the health of the tree." The size of these trees, more than the age, is considered to indicate their fitness for tapping, "and probably a circumference of 30 inches at 3 feet from the ground is the limit at which attempts to extract the rubber should be commenced."

RUBBER FROM "LA ZACUALPA."

THE picture on this page is from a photograph of an exhibit

made by La Zacualpa Rubber Plantation Co. at the Mechanics' Pavilion, San Francisco, during the Epworth League convention, July 15-20. It embraced the shipment of cultivated rubber from the company's plantation in Mexico, mentioned in the last INDIA RUBBER WORLD. There were shown bales of crude rubber, washed rubber in rolls, samples of the rubber vulcanized by the Bowers Rubber Co., sections of ten year old planted rubber trees 18 inches in diameter, photographs of scenes on the plantation, Mexican articles of dress worn on the plantation, and curios. The exhibit was seen by thousands of persons, and was examined with much interest.

TEHUANTEPEC RUBBER CULTURE CO.

[Plantation Rubio, canton of Manatitlan, state of Vera Cruz, Mexico. Offices: No. 35 Nassau street, New York.]

A REPORT to the bond subscribers issued August 5, signed by President H. W. Bennett, states that progress made in placing the company's first mortgage bonds, which provide the funds required for the plantation development, has been most



RUBBER FROM LA ZACUALPA PLANTATION.

satisfactory. The bonds have been placed, for the most part, with people accustomed to close scrutiny of investment securities. It is mentioned that among the subscribers are fourteen large rubber manufacturers in the United States. Work on the plantation has made good progress, under the plantation superintendent, A. B. Luther. It is promised that further progress reports will be issued every three months. A temperature record is given for July, showing that the average of the highest temperature on the plantation for each day was 84°, and the average lowest temperature for each day, 72°. The highest figure reached was 88°. The daily average rainfall was 17/16 inch, or a total for the month of 21.7 inches.

* * *

C. B. WAITE writes in *Modern Mexico* for May that while crossing the state of Palenque he stopped at the estate of the Chiapas Rubber Plantation and Development Co., on the river Michol, where he found 3000 acres cleared for planting rubber, 250 acres planted, and 300,000 young trees in the nursery.

NOT MUCH OF A RUBBER MONOPOLY.

THE English *India-Rubber Journal* devotes a good deal of space to what it terms information of "an astonishing character," to the effect that the Acre district, lately in dispute between Brazil and Bolivia, and reported to be rich in rubber, "has been acquired by one of the most powerful financial groups in America, who will practically stand possessed of all rights, with the Bolivian government as partners." The suggestion is hazarded that this group of financiers is not "entering into this agreement for philanthropy." Conversely, its intention must be to make consumers pay all that can be forced out of them for rubber.

The suggestion comes to THE INDIA RUBBER WORLD from nearer home that, even if a company should be formed to receive and handle all the rubber coming from the river Acre, the effect upon the general market would be unimportant. "No doubt," it was said, "the Acre district is rich in rubber, for the greater part is still unworked. But the scarcity of native labor there, and the difficulty of securing rubber workers from the outside, will prevent the possibility of any great increase in production in the near future. By the utmost effort, 1200 tons of rubber might be got out of this district in a year, but what would that amount to, in the total production of 26,000 tons in the whole Amazon valley? Either this rubber would be sold in the open market, or it would be sold to consumers, who to that extent would not be buyers elsewhere, but in any event the market would not be controlled. This rubber formerly was termed 'Bolivian,' though now the cases are marked 'Acre-Bolivian.' The quality is inferior to the rubber from the river Purús. It now compares with the rubber which came formerly from the Purús, but the rubber from the latter river has in time become improved, through better working."

From the same source as the statements just quoted is the assertion: "There might be a greater increase in the production of rubber in new districts in the Amazon country if prices were more stable. For instance, if there were any assurance that fine Pará would remain, in New York, at \$1 per pound, or in Pará, at 10 milreis per kilogram, it would offer an inducement for preparations on a large scale, for continuous operations, and permanent arrangements could be made for the employment of the Cearenses who now drift back and forth between the Amazon and their own province, according as the chance for earning money seems best in one place or the other. But rubber is now away below these figures, and when prices rise again, no man can foresee how long they will remain high."

BRAZILIAN EXCHANGE AND RUBBER.

IN the last INDIA RUBBER WORLD was noted the gradual tendency, in late years, of the Amazon rubber output to become larger during the second half of the crop season, owing to the continued extension of rubber gathering into more remote districts. The *Brazilian Review* remarks that this has "an important bearing on exchange, as was evidenced this year in March, when the enormous shipments of rubber swelled the supply of ready bills to an extraordinary degree and, with the aid of speculation, drove exchange up to 14½d. There seems every probability of this year's conditions being renewed, and that the large shipments to be expected from February to March will, in future, provoke an annual upward movement of exchange, similar to that which generally accompanies the coffee movement from May to June."

The rate of exchange in Brazil is not of immediate concern to rubber consumers, since it does not regulate the price of rub-

ber. If rubber stocks are liberal, and manufacturers are not active, prices will be low, and *vice versa*. In the last analysis, supply and demand fix the price paid by consumers. But the rate of exchange—*i. e.* the price in pence of the Brazilian milreis—is of great concern to the handlers of rubber in the earlier stages of its movement from the forest to the factory. The rubber producer or collector who offers his year's output when the exchange value of the milreis is 12 pence, will receive fewer milreis by 25 per cent. than if the rate were 9 pence. The price of rubber in England or at New York is the same; the Brazilian gets less for it in the currency of his country. And if the Brazilian is very hard hit, by reason of a sudden rise in exchange for which he is unprepared, or if many Brazilians are hard hit, it may demoralize their business to an extent which will render the next season's rubber crop a more uncertain quantity than otherwise would be the case. It is then, if at all, that the consuming trade feels the remote effect of exchange fluctuations.

It would seem that, as a rule, the rate of exchange would be guided by fixed laws of trade, so that when rubber was selling at a certain price at New York, the producer would get about so much for his crop. But so long as Brazil has an unstable currency, the rate of exchange can be manipulated as readily as the price of steel shares in Wall street, and *The Brazilian Review* does not hesitate to call names and charge that there are banks in Brazil that gamble in exchange as recklessly as anybody. Indeed, it asserts that "if the banks would only refrain from issuing speculative paper, there would be an end of speculation." One bank manager—in the Bank of the Republic itself—is charged with having boomed rates "like a very bucket shop."

LOST IN BRAZILIAN WILDS.

THE Fort Scott (Kansas) *Monitor* of recent date contains the details of the hardships experienced by a party of young men from that and neighboring towns, sent to Brazil by the Price Mercantile Co., of Kansas City. Two years ago the original expedition set out, to hunt rubber in the state of Mattogrosso. This party having been reported lost, a relief expedition was organized, under Frank Greenfield, whose brother was one of those missing. The *Monitor* prints several letters written by Frank Greenfield to his family, stating that, having become convinced that the original party were no longer alive, and that their remains could never be traced, he joined a government surveying party. Their work in trackless forests was most arduous, they were often without suitable food and sometimes for days without anything but wild meat, besides which they suffered from fevers. The family have learned that Greenfield died March 29, about 60 miles from Cuyaba, in Mattogrosso, while on his way to headquarters for provisions for his party, the other members of which were too much exhausted to travel. Greenfield is believed by his family to have acquired some concessions for gold and diamond mining, and a third brother has taken steps to interest the United States government in aiding him to have these concessions confirmed and extended.

RUBBER SHOE HEELS.—There has been apparent of late, in certain quarters, a demand to have rubber heels put on leather shoes at the factory, on account of the bother in having the leather heels replaced with rubber by cobblers. The Boston *Superintendent and Foreman* says that some shoe factories are now turning out shoes with rubber heels, but that no satisfactory machine has yet been invented for attaching these heels.

THE LARGE MOVEMENT OF RUBBER SCRAP.

FOR several years past it has been evident that the total amount of crude India-rubber (excluding Gutta-percha) embraced in the official statistics of the leading commercial nations was greater than could be accounted for by adding together the output of the different countries producing rubber. This excess doubtless would be accounted for if a separate classification were adopted at the European custom houses, as has been done in the United States, for rubber scrap and reclaimed rubber. But without such classification, some important facts bearing upon the question may be arrived at by an analysis of European official figures. For example, the British import returns have long embraced "Caoutchouc" from Russia, though it is well known that England does not receive any crude rubber from that country. The imports of "raw Caoutchouc" credited to Russia in the latest British returns have been as follows:

	1896.	1897.	1898.	1899.	1900.
Pounds.....	1,016,624	988,512	2,311,120	2,196,992	4,260,928

All of these amounts are clearly old "galoches," and were they entered as such, the result would be a material modification of the returns of the crude rubber movement in England. A similar condition exists with reference to German statistics of rubber imports. In the latter country crude rubber is reported to be received, not only from Russia, but from several other European countries, not one of which is likely to be an exporter of this material, as follows:

FROM—	1898.	1899.	1900.
Russia.....pounds.	1,546,160	7,267,260	4,061,420
Finland.....	....	55,000	255,420
Denmark.....	....	64,240	134,860
Norway.....	53,240	130,020	390,440
Sweden.....	120,560	439,780	843,260
Austria-Hungary.....	....	118,800	189,860
Turkey.....	192,500	174,020	240,900
Total ..	1,912,460	8,249,120	6,122,160

The next comparison relates to the German returns of India-rubber exported to the United States during the three past calendar years, and to the United States returns of rubber imported from Germany in the same period—weights in pounds:

	1898.	1899.	1900.
Exports reported by Germany.....	3,041,060	8,319,300	5,912,320
Imports reported by United States....	1,716,521	2,110,969	1,428,339

It may throw some light upon this wide discrepancy to give here a statement of the imports of "old" or "scrap" rubber credited to Germany by the United States for the past three fiscal years, no details being now accessible for the calendar years in question:

IMPORTS OF SCRAP RUBBER INTO THE UNITED STATES—FISCAL YEARS ENDING JUNE 30.

Countries.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Belgium.....pounds	....	....	....	....	3,916	12,220	16,928	71,683	196,790	300,419
Denmark.....	....	....	24,238	....	52,053	46,628	15,424	129,811	90,075	7,273
France.....	....	....	24,610	68,211	52,045	42,868	41,264	84,760	64,782	190,901
Germany.....	108,175	319,853	104,653	707,647	742,259	1,910,033	1,291,353	2,857,606	3,560,065	9,810,311
Russia—Baltic.....	21,668	15,102	22,000	....	65,954	398,321	563,998	1,582,862	2,993,763	3,955,387
Russia—Black sea.....	....	....	....	....	65,407	....	300,815	132,190	329,495	1,092,129
Norway—Sweden.....	....	11,516	....	10,675	15,540	....	....	14,267	33,800	95,175
Turkey in Europe.....	20,593	59,230	65,233	131,621	67,405	51,437	18,178	50,988	115,143	123,866
United Kingdom.....	246,257	896,787	117,929	188,997	254,489	340,439	593,798	269,652	426,790	1,006,513
British North America.....	87,008	534,581	548,067	664,498	583,871	659,830	398,913	2,051,617	2,675,147	2,497,908
West Indies.....	2,033	....	3,813	2,359	115,987	....	19,736	....	4,220	1,050
South America.....	....	1,000	....	....	....	....	....	79,535	....	300
British East Indies.....	2,429	....	....	....	....	409,752	389,238	2,140,358	....	....
Other countries.....	....	2,717	....	....	13,637	3,140	4,300	19,972	23,534	12,315
Total ... ..pounds	488,163	1,841,786	910,543	1,774,008	2,032,563	3,874,677	3,653,945	9,488,327	10,513,604	19,093,547

	1897-98.	1898-99.	1899-1900.
Pounds.....	2,857,606	3,560,065	9,810,311

No doubt, if the figures at hand permitted a closer adjustment of the periods of time under comparison, it would be found that the total exports of rubber from Germany to the United States would be found to balance pretty closely the combined imports credited to Germany by the United States for crude rubber and scrap. As indicating the importance of reckoning separately with scrap rubber in calculating the world's movement of rubber, a table is given on this page, showing the imports into the United States for ten years past of scrap. The total for the last fiscal year reached 19,093,547 pounds—a figure approximating to 20 per cent. of the probable total production of crude rubber for the period under review. And it is worth while to point out, not only that upwards of 16,500,000 pounds of this material was derived from Europe, but that the greater part of this heavy volume figures, in one way or another, in the European statistics of crude rubber.

SCRAP RUBBER OF AMERICAN ORIGIN.

IN this connection it may be of interest to give space to an estimate of the amount of rubber scrap of American origin, which is greater than in any other country. Some inquiry has been made on this point, and the following letter is one of those which have been received in reply:

TO THE EDITOR OF THE INDIA RUBBER WORLD: Answering your inquiry of the 16th instant, we will say that we estimate the quantity of rubber shoes gathered in this country, at approximately 25,000 tons. In addition to this, there are gathered about 5000 tons of hose, some 2500 tons of bicycle and vehicle tires, and likewise some 5000 tons of miscellaneous rubber scrap—or a total of 37,500 tons. This does not take into consideration the foreign rubber boots and shoes that are landed on our Eastern shores. The yield of reclaimed rubber will average about 80 per cent.

Yours, truly,

B. LOEWENTHAL BROS. & CO.

Chicago, July 18, 1901.

The estimate above figures out at 75,000,000 pounds of scrap rubber, which, at 80 per cent. of reclaimed rubber, would give 60,000,000 pounds of the latter—which is the largest estimate yet brought to our notice. W. T. Rodenbach, of the United States Rubber Co.'s reclaiming plant (Naugatuck, Connecticut) says: "Various estimates have been made of the quantity of domestic rubber boots and shoes which are reclaimed each year; to be on the safe side, my opinion is that it would not be far from 18,000 to 20,000 tons. To this, of course, would have to be added all the other kinds of scrap rubber converted." This estimate, it will be seen, is 20 per cent. less than in the letter above given, and yet calls for an immense amount of waste material.

HECHT, LEVIS & KAHN'S REVIEW.

THE annual circular issued from Liverpool by the above named importing firm embodies the results of a careful attempt to estimate the world's production and consumption of rubber, and also the total visible supply on July 1. The figures given, compared with those previously issued by this firm, are :

	1898-99.	1899-1900.	1900-01.
Total production, tons.	52,192	53,348	52,864
Total consumption.	48,783	48,352	51,136
Visible supply, July 1.	4,871	7,869	6,941

In many cases, of course, it is impossible, in such estimates, to calculate shrinkage between producing and consuming markets, and there are other elements of inaccuracy, but the above are offered as approximate amounts. Again, the "ton" is a variable quantity, in different countries, but accepting the metrical ton of 1000 kilograms as the standard, the estimate for the past twelve months reads :

Total production.	116,543,974 pounds.
Total consumption.	112,734,426 "
Visible supply, July 1.	15,302,128 "

The Pará crop shows an increase of 3½ per cent. over last year, but this is almost wholly in Peruvian (Caucho). While during the last ten years, the production of Pará grades, properly speaking, has increased 57 per cent., the output of Caucho has more than trebled, as shown here in detail :

	1890-91.	1900-01.	Increase.
Pará fine. tons.	9,954	14,637	47%
Pará medium (entrefine).	1,371	2,879	110%
Pará coarse (negroheads)	4,032	6,718	66%
Peruvian (Caucho).	1,100	3,573	225%
Total.	16,457	27,807	69%

That increase in production and deterioration in quality invariably go together, says the circular, has been exemplified in a very marked manner during the year under review. Antwerp imports have again increased by 1200 tons, and the quality of the rubber has very much deteriorated ; in fact, the bulk of the arrivals consists now of heated and badly conditioned kinds, and the high standard of previous years can no longer be counted on.

"VALUES.—The extreme high prices of the last two seasons have at last given way to a more normal level, partly on account of unfavorable conditions in the United States, where the trade had to struggle against the paralyzing effect of two successive open winters, and partly because of reduced activity on this side. So firm was the 4 shilling basis established in the mind of the whole rubber trade that, after a temporary decline to 3/11½ in July and August, prices rebounded once more to 4/4 in September. From this, however, under the influence of increasing receipts and the financial crisis in Pará, which precluded holders out there from showing more resistance, the decline was almost uninterrupted till values touched in March last 3/6. The importance of the decline brought about its own reaction, which was assisted by large American purchases in Pará and by, what seemed at the time, a most determined effort in America to control the world's market. The success of this move on the part of Americans was, however, only a partial one, as manufacturers had, during the period of decline, bought beyond their immediate requirements, thereby creating an invisible supply (see our remarks in last year's review) which enabled them to successfully combat the attempt to force a rise upon them."

"PROGRESS.—While, during the crop year ending June 30, the shipments from Pará to Europe fell to the level of those in 1896, the shipments to the United States were the largest on record. It would, however, be misleading to conclude that the

larger shipments and consequent larger deliveries, point necessarily to a corresponding increased consumption in the United States. On the contrary, the probabilities are that large quantities have been stored away for speculative purposes, and the fact that important shipments of hard cure rubber have been made during the last few months from New York to Europe, seems to confirm this assumption."

"PROSPECTS.—The new season opens at what are generally acknowledged moderate prices, considering the modern condition of rubber industries. The visible supply of all kinds Pará is now 16¼ per cent. smaller than at the beginning of the previous season, and it is generally assumed that the coming Pará crop will show a falling off variously estimated from 10 to 25 per cent. Some decrease would be only natural, considering last season's financial crisis at Pará, which caused a large reduction in the number of rubber gatherers sent into the interior. On the other hand, a certain number of hands have, contrary to former years, remained in the interior, which to a certain extent will compensate for the reduced immigration. All things considered, the deficiency will probably not be so severe as to cause anything like a rubber famine, especially as the prospects of consumption in Europe are not particularly favorable."

KING LEOPOLD, RUBBER MERCHANT.

THE interest of the king of the Belgians in Congo rubber is mentioned so often, in his own country as well as elsewhere, that it must amount to something. In fact so far as the Congo Free State is Belgian at all, it may be considered as King Leopold's private property. The value of the rubber resources in the Congo was no sooner appreciated than a "private domain" was established, within which rubber gathering without official permission was prohibited. It happened that the richest rubber forests were included in the reserved district. Every steamer from the Congo which arrives at Antwerp with rubber includes on its manifest a liberal shipment on account of the "Domaine privé"—in other words state rubber. But this is not all. Some time ago *The Speaker*, an English journal, published an article pointing out that several of the supposedly private companies in the Congo rubber trade were in reality permitted to operate there only on condition that the state—practically the king—should be admitted as a shareholder, in most cases to the extent of 50 per cent. of the capital. The amount of rubber coming from that country from really private companies, therefore, is comparatively small. Taking the reports of Congo rubber arrived at Antwerp during the first half of 1901, as published in detail each month in THE INDIA RUBBER WORLD, the figures permit of the following analysis, in the light of the article published in the English paper :

	Kilograms.
Domaine privé Etat du Congo.	1,592,101
Companies in which the state is interested.	614,087
All other companies.	761,831
Total.	2,968,019

While these figures may be subject to revision, the salient fact remains that the rubber output is largely in the hands of the government. And if half the reports be true, the rubber collectors who work for the government agents do not receive such high wages, but that a very comfortable profit exists, at the prices commanded by Congo rubber at Antwerp for several years past. King Leopold may fairly be recognized, therefore, as one of the greatest of rubber merchants. And he can afford to laugh at competition.

HEARD AND SEEN IN THE TRADE.

“WHAT would you do,” asked one rubber man of another while at luncheon, “if the plan now talked of in Wall street should be carried out, in the consolidation of all the rubber factories in the country, as has been done in the steel industry?”

“Start a new rubber factory,” was the answer. “With all the other rubber mills tied up in one bunch, where no man’s individuality could find play in the transaction of business, and with prices governed by agreement, I shouldn’t want anything better than to enter the field as an independent, free to deal with a customer as man with man. I could make as good goods as the ‘trust,’ and the only way that they could beat me as to price would be to cut their own prices to a level that would leave no show for dividends for the stockholders.”

“I don’t know but you are right,” was the first speaker’s comment.

* * *

ONE of the successful enterprises in which the late John H. Cheever was interested, and, indeed, of which he was the founder, is the Dundee Water Power and Land Co., of Passaic, New Jersey. The work done by this company has contributed in no small degree to the industrial development of Passaic, at which point ultimately was concentrated all the plant of the rubber company founded by Mr. Cheever.

* * *

HENRY F. HEKNER tells an interesting story of how the New York Belting and Packing Co., when they were burned out at Nos. 37-38 Park row, in February, 1882, continued their business without interruption. The fire broke out at 10 A. M., and made such progress that nothing was saved but the company’s books. A vacant building near by was leased as soon as the seriousness of the fire was appreciated, and by 3 P. M., the full office force was at work in the new quarters, second hand desks having been obtained, an office stove bought, coal borrowed, and a freshly painted sign hung out. The goods due that day from the Newtown factories were unloaded at the new instead of the old quarters, and some of these goods were shipped to out of town customers on the same day.

* * *

FIVE years ago I wrote in this department: “Some day I may tell in these pages the story of a man who bought an interest in a new rubber company, then working on a small scale, paying for it with a note for \$25,000, which was discounted in bank by the other shareholders. The note was met at maturity, out of the profits which had already accrued to its maker, and those profits continued to accrue, until he had actually drawn millions of dollars from the concern, and that without ever having put a dollar of cash into it.” Unfortunately I failed to verify the story, until the possibility of doing so had past, but it has been told to me more than once, and it may not be amiss to state now that it related to Henry F. Durant, who, for more than thirty years, was the partner of the late John H. Cheever, in the New York Belting and Packing Co.

* * *

“PROFITS in the rubber business in the days when Mr. Cheever was building up his company were far more liberal than now,” said a manufacturer to me. “My own sales are probably larger than his were in the days when Mr. Durant was associated with him, but we don’t begin to make such returns on the capital invested as those pioneers did.”

* * *

A DEALER in rubber goods in Copenhagen, Denmark, who visited the United States recently, said that American rubber

footwear was preferred in that market, when the finer qualities were desired. No European manufacturer, he said, had yet succeeded in producing rubber shoes at once light in weight and sufficiently durable, and none so attractive in appearance as those of the best American factories. He mentioned 15,000 cases per year as the extent of his trade in rubber footwear, though not all of this is in American goods, and he has about 200 customers on his list, throughout Denmark. In other lines his stock is drawn mainly from England, though he is open to buy in any market where suitable goods can be obtained at the best figures. It may surprise some persons to learn that freights on such goods as he buys are heavier from London than from New York. Country dealers in Denmark still have to be accommodated with six months’ credit.

* * *

THE dealer above referred to was averse to handling the goods of American firms having their own representatives in Europe. At least he wanted to deal direct with manufacturers, and on equal terms with other European customers.

* * *

I HAVE been talking with a man who formerly traveled extensively in different foreign countries for an American house which, though not a rubber house, is credited with distributing abroad a larger amount of American rubber druggists’ sundries than any other one concern. It is his testimony that, wherever the quality of the best American goods in this line become known, they are preferred to any other, except where a preference exists for goods in certain forms, and where American manufacturers fail to respect this preference. But so far as white goods are concerned, they are preferred to all others, wherever they are given a proper test. So far as price is concerned, this former traveler is convinced that no goods produced in any other country, of equal quality, can be sold at lower prices. He expressed surprise that American manufacturers did not attempt to cater to the trade, in various English colonies, where the demand for hot water bottles, for instance, is for the English rather than for the American shapes.

* * *

AN export house in New York has asked me where hard rubber combs could be obtained, bearing a certain trade mark, a copy of which was forwarded by a dealer in Brazil. I assured them that, while the trade mark bore a strong resemblance to that of an American manufacturer, it was not “made in America,” but evidently had been produced elsewhere, with a view to aiding in the sale of goods in imitation of an American article for which a good demand existed.

* * *

NO little interest has been shown lately in the manufacture of rubber oil, although inquirers are secretive as to the uses to which they intend to put it. The old fashioned formula for this work calls for 11 pounds India-rubber, 90 pounds rape seed oil, digested by heat, which, however, is not to be con-founded with oil or rubber.

* * *

GUTTA-PERCHA from the Philippine Islands was imported into the United States in 1858 to the value of \$628, and in 1859 to the value of \$20. These are the only two instances in which Gutta percha from this source is noted in the United States import returns.

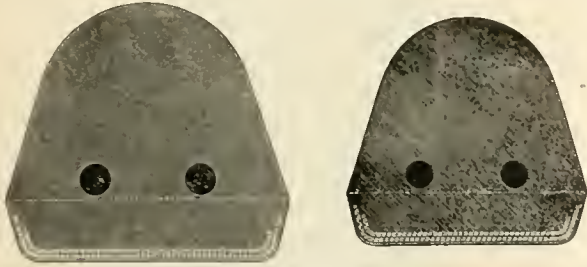
* * *

THE government of Amazonas, at Manáos, has received a steamer, the *Cidade de Manáos*, with the aid of which it is hoped that the contraband trade in rubber will be checked, if not stopped.—The Red Cross line has re-established direct steamship connection with Iquitos.

NEW GOODS AND SPECIALTIES IN RUBBER.

"IMPERIAL" RUBBER VEHICLE TIRE.

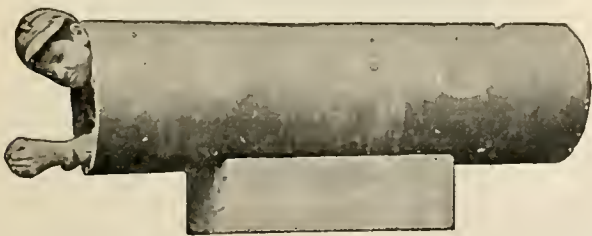
THE distinctive feature of the construction of this solid rubber vehicle tire is that it provides a greater amount of rubber between the wires and the channel than has been true of tires in this class hitherto. The constant compression and strain on many tires in the market causes them, after short service, to become cut by the wires and loosened from the wheels. By referring to the illustrations on this page it will be noticed that the holes for the wires



are above the angle of the channel and tire. This gives an extra thickness of rubber between the holes and the base of the tire, whereby increased service from the rubber is gained. Besides large wires are used in connection with the "Imperial" tires, which are less liable to cut the rubber. The fabric in these tires is heavily coated with rubber, which prevents it from becoming rusted and rotted through the action of water and moisture. Sections are shown here of 1 3/8 inch and 1 5/8 inch tires; they are made in sizes from 3/4 inch up. [Boston Belting Co., Boston.]

LARGE RUBBER HOSE.

THE illustration herewith has been made from a photograph of a section of rubber suction hose manufactured by the Bowers Rubber Co. (San Francisco, California.) The measurements have not been stated, but the position within the hose of a full



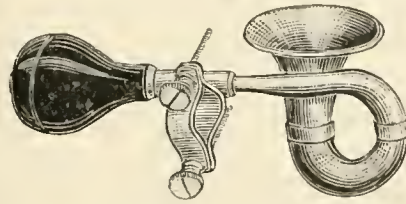
grown man indicates the diameter very fairly. The Bowers Rubber Co. were incorporated November, 1890, to continue the business of manufacturing rubber goods, commenced in San Francisco in 1888 by W. F. Bowers & Co. The firm make a specialty of the lines of rubber goods in demand in the mining districts.

THE GAME OF "PING PONG."

THE British correspondent of THE INDIA RUBBER WORLD, in his notes this month, refers to "ping pong" as having become so popular as to have enhanced the consumption of celluloid to an important extent. The game likewise has gained much vogue in Germany. It is a house game, and is known also as room lawn tennis, or table lawn tennis, to say nothing of another name—"Gossima." The game appears to have become little known in the United States as yet, although it may be seen in the windows of A. G. Spalding & Brothers, the sporting goods dealers,

FRENCH AUTOMOBILE HORN.

THIS automobile horn, which is called a "squacker" in France, is made in three sizes—small, medium, and large—which retail in this country at \$6, \$7, and \$10, respectively.

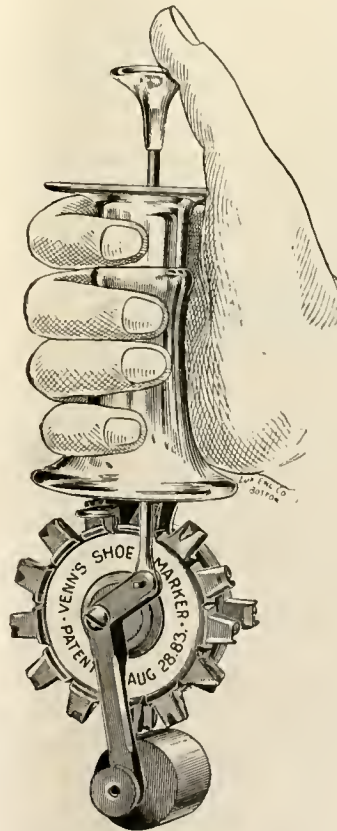


They are imported and carried in stock in this country by Charles E. Miller, dealer in automobile material, Nos. 97-101 Reade street, New York, who has favored us with the illustration herewith.

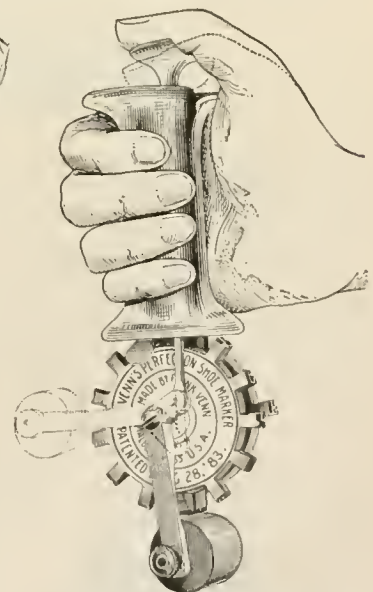
VENN'S PATENT SHOE MARKER.

THE illustrations herewith will clearly show the improvement that has been made by Frank Venn (Malden, Massachusetts),

in his new patent marker, for marking rubber boots and shoes, which is now being used with success in many factories. The old style shoe marker patented by Mr. Venn was illustrated and described in THE INDIA RUBBER WORLD, August 10, 1897. As will be



THE OLD STYLE.



THE NEW STYLE.

seen by comparison of the two cuts given here, the new or perfected marker has a handle all of one piece. It is designed especially for use by girls, the new marker being only two-thirds as heavy as the old one, though just as strong and durable. Many years of experience showed that the machine Mr. Venn had been making was not perfectly adapted for marking shoes off the last, which is now done by many manufacturers, it being too heavy for the girls to use. He has, therefore, reduced very materially the weight of his new marker, from about 24 ounces to 16 ounces. He has found that the letter F

is used more frequently than any other, and has, therefore, added an extra *F*, so that the new marker has one *S*, one *M*, one *W*, and two *F*s, with figures for all sizes and widths needed in the trade. The operator can mark on an average about 600 pairs per hour on the last, and from 1000 to 13,000 per hour off the last. Mr. Venn's address is Box 76, Malden, Massachusetts.

BOWN AUTOMATIC TIRE VALVE.

THE illustration shows a sectional view of a new automobile tire valve. The Bown valve is the one that has a little rubber ball for plunger. It has been used for the past season or two on bicycle tires. The principle is that of utilizing the air pressure within the tire to force the rubber ball to its seat, thus retaining the air when the pressure from the pump is released. The use of this valve is referred to as rendering it an easy matter to inflate the tire. Other advantages are the simplicity of construction, as compared with some other valves, and the fact that the rubber ball plunger never sticks in the tube. Made by the Bown Tire Valve Co., Limited (Battle Creek, Michigan), which has been organized to introduce the valves made under the Bown patents.



NEW CLIFTON IRON ARMORED CONDUIT.

THIS insulating conduit, which has been installed in many large and important buildings throughout the country, consists of the regular standard wrought iron pipe, light and heavy wall, lined with a special coating of rubber compounded with other valuable insulating material. The whole is attached so firmly to the interior of the pipe that it almost forms a part thereof, while at the same time it is flexible enough to allow the pipe to be bent at different angles without injury to the lining.

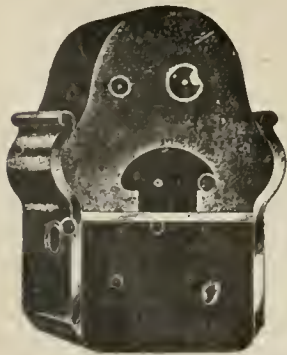


It is installed in the same way as other conduits, but in many instances at less expense. In addition to being flexible, this conduit is impervious to water, indestructible by corrosive salts or alkalis, and is not affected by heat up to 300° F. One advantage of the flexibility of the conduit is that bends or turns may be made, by its use, in places where it would not be convenient to use elbows. The "Clifton" conduit is made in different styles, being rubber lined inside and outside, or inside only. [Clifton Manufacturing Co., No. 65 Franklin street, Boston.]

DOUBLE LOCKED COMPRESSED TIRE.

THE point aimed at in the design of the Dewes & Whiting double-locked, endless compressed tire is that it shall stay on when it has been fitted to a wheel. The internal lock is made of hard wood, which cannot corrode or injure the rubber. In fact, there are no metal fastenings to come in contact with the rubber. The wood is held in place by screws from the under or inner side of the felloe, and the steel flanges are attached to the felloe as indicated in the illustration. The tire is made in sizes for automobiles if desired.

It has lately been patented [Dewes & Whiting, No. 243 Centre street, New York.]



RUBBER BUCKET FOR AUTOMOBILE USE.

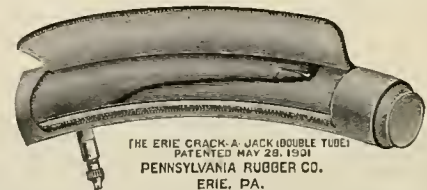
THIS illustration represents a collapsible rubber bucket designed for use in connection with automobiles—for holding water and for other purposes which will suggest themselves



readily to owners and users of these vehicles. The fact of the bucket being collapsible adds greatly to the convenience of transporting it. [The B. F. Goodrich Co., Akron, Ohio.]

A SUCCESSFUL DOUBLE TUBE TIRE.

THE new double tube tire, of which a small sectional view is shown in the illustration herewith, is the subject of a patent allowed on May 28 last. The tire has been in use longer, however; in fact, it is understood that over 100,000 sets have been marketed. The degree of satisfaction given by this tire is evi-



denced by the small number returned to the factory—less than 1 per cent.—which is an unusual record, when it is considered that this is an unguaranteed tire. In most of the cases where tires were returned, it was only on account of punctures. The method of construction of this tire is explained in a pamphlet that can be had for the asking. [Pennsylvania Rubber Co., Erie, Pa.]

"STANDARD OIL" DUCK BOOT.

THIS is not, as its name might suggest to some readers, a product of the "Standard Oil" or any other "trust," but is a boot designed to meet the demand of many workmen whose occupation obliges them often to stand in oil. This is, as everybody in the trade knows, one of the most severe strains to which a rubber boot can be put. The designation given to the shoe indicates that in the opinion of the manufacturers this boot occupies a place in its field as important as that of the Standard Oil Co. in the oil business. While a rubber boot cannot be made that will withstand oil or grease absolutely, the "Standard Oil Duck Boot" is made especially to meet these trying conditions. The boot is made of a special oil-resisting compound, which has been given a thorough practical test in crude petroleum. The boxes are branded with a representation of an oil well. [Apsley Rubber Co.]

EXPORTS OF AMERICAN RUBBER GOODS.

LITERATURE OF INDIA-RUBBER.

THE value of exports from the United States of goods classed as "manufactures of India-rubber" during the fiscal year ended June 30, 1901, reached the highest figures yet recorded, the details being:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July-May....	\$508,873	\$684,256	\$1,584,864	\$2,777,993
June, 1901....	56,853	39,759	142,648	239,260
Total.....	\$565,726	\$724,015	\$1,727,512	\$3,017,253
1899-1900..	599,013	420,939	1,404,205	2,364,157
1898-99...	(a)	260,886	1,504,499	1,765,385

(a) Not separately reported prior to July 1, 1899. [Exports to Hawaii and Porto Rico not included.]

The number of pairs of rubber footwear exported during the past twelve fiscal years has been:

1889-90....	171,473	1893-94....	261,657	1897-98....	391,832
1890-91....	175,627	1894-95....	383,723	1898-99....	486,586
1891-92....	231,105	1895-96....	350,713	1899-1900....	762,016
1892-93....	410,950	1896-97....	306,026	1900-01.....	1,469,100

The average invoice value of rubber footwear during the last four fiscal years has been:

1897-98.	1898-99.	1899-1900.	1900-01.
57.3 cents.	53.6 cents.	55.25 cents.	49.3 cents.

Exports of reclaimed rubber by fiscal years have been:

	1898-99.	1899-1900.	1900-01.
Value.....	\$376,962	\$492,284	\$412,728

RUBBER GOODS EXPORTS FROM NEW YORK.

DURING five weeks ended July 30, 1901, of the value and distributed as follows:

Great Britain..	\$44,744	Central Amer.	697	Japan.....	8,633
Germany.....	13,999	Cuba.....	8,027	Hongkong....	29
France.....	1,234	British W. Ind.	589	Philippines...	497
Belgium.....	5,105	Danish W. Ind.	15	British E. Ind.	1,232
Holland.....	718	Dutch W. Ind.	39	British Africa.	7,479
Spain.....	2,728	Haiti.....	289	Liberia.....	8
Switzerland....	703	San Domingo.	100		
Italy.....	135	Argentina....	2,056	Total..	\$125,690
Austria.....	383	Brazil.....	865	May 29 June	
Turkey.....	14	Chile.....	1,098	25.....	92,157
Russia.....	394	Colombia....	864	May 1-28...	70,216
Denmark.....	1,070	Ecuador.....	85	April 3 30....	86,660
Norway.....	223	Peru.....	189		
Sweden.....	438	Venezuela....	97	Total 17	
Brit. N. Amer.	778	Australia....	6,013	weeks.	\$374,123
Mexico.....	12,843	China.....	1,230		

Some other exports from New York during the five weeks ended July 30 were:

Dress Shields—To London \$3525; Liverpool \$4624; Southampton \$5192; Glasgow \$953; Hamburg \$9569; Vienna \$829; Havre \$837; Antwerp \$743; Australia \$2692; Argentina \$190; British Africa \$48; total \$33,373.

India-rubber Thread.—To Antwerp \$4587; Havre \$3369; Hamburg \$7786; Rotterdam \$7015; Genoa \$5277; Glasgow \$6362; total \$34,396.

Reclaimed Rubber.—To Liverpool \$4121; Glasgow \$7785; Leith \$4910; Manchester \$900; Genoa \$1223; Havre \$2318; Hamburg \$5822; Copenhagen \$741; Christiana \$758; total \$28,578.

AMERICAN IMPORTS OF RUBBER GOODS.

THE value of the imports of India-rubber and Gutta-percha goods during the twelve months ending June 30 in each year has been:

	1898.	1899.	1900.	1901.
India-rubber goods.....	\$309,247	\$379,309	\$564,088	\$478,625
Gutta-percha goods.....	156,997	115,582	254,332	163,337
Total Imports.....	\$466,244	\$494,891	\$818,420	\$641,962
Reexports.....	101,857	63,016	12,874	16,888
Net Imports....	\$364,387	\$431,875	\$805,546	\$625,074

“DIE Kultur des Castilloa-Kautschuk,” by Theodor F. Koschny, of San Carlos, Costa Rica, is an 8vo pamphlet of 54 pages, issued as Vol. II, No. 3 of the supplementary series of *Der Tropenpflanzer* (Berlin), the organ of the Kolonial-Wirtschaftlichen Komitee—an organization which has done so much of late to investigate the natural conditions attending the growth of rubber species, and to promote cultivation on an intelligent basis. Herr Koschny has now been in Costa Rica for 23 years, during all of which time he has made a study of the rubber tree, planting on a small scale by all the different methods. He has adopted that of cutting out rows through the forest, and planting the seeds where the trees are to stand. He estimates that the needed outlay, other than for land, would be, for 100 hectares (=247 acres), on which he would place 27,777 trees (=116 or 117 trees per acre), up to the end of seven years, would be \$8207 (gold). In the eighth year he would begin tapping, limiting the yield to 1 pound per tree, in order not to endanger their vitality. Herr Koschny describes four sorts of *Castilloa*, which are known locally as—

- Hulé blanco=white rubber.
- Hulé negro=black rubber.
- Hulé colorado=red rubber.
- Hulé tauú, which is the "tuno" gum.

This is, on the whole, the most comprehensive publication yet made in regard to the rubber tree of Central America by one who made a study of the tree in its native *habitat*, and it gives the impression of much painstaking to assure accuracy.

IN CURRENT PERIODICALS.

REISEBERICHT der Guttapercha-und Kautschuk-Expedition nach den Südsee-Kolonien. By Rudolf Schlechter. [Report on rubber plantations in Sumatra by a commission from the German Colonial Committee]. = *Der Tropenpflanzer*, Berlin. V-7 (July, 1901.) pp. 318-329.

Rubber in Venezuela. By Consul Goldschmidt=*Advance Sheets of Consular Reports*, Washington. No. 1070 (June 24, 1901.) pp. 1-3.

Conditions Auxquelles est soumise l'Exploitation du Caoutchouc au Brésil. [Extracts from documents communicated by the ministry of foreign affairs of Belgium.] = *Bulletin de la Société d'Etudes Coloniales*, Brussels. VII-11 (November, 1900.) pp. 793-796.

De cultuur van den Mexikanschen gom-elastik boom (*Castilloa elastica*). = By A. H. Berkhout. [Review of pamphlet by Th. F. Koschny, of Costa Rica, published by *Der Tropenpflanzer*.] = *De Indische Mercur*, Amsterdam XXIV-30 (July 30, 1901) pp. 580-581.

From Pará to Manáos: A Trip up the Lower Amazon. By Reginald Kœttiltz. [Illustrated account of the Amazon country, with references to rubber gathering.] = *The Scottish Geographical Magazine*, Edinburgh. XVII-1 (January, 1901.) pp. 11-30.

Renseignements Comparatifs sur les Cinq Principaux Arbres à Caoutchouc. = *Bulletin de la Société d'Etudes Coloniales*, Brussels. VIII-7 (July, 1901) pp. 497-502.

OTHER PUBLICATIONS RECEIVED.

THE AFRICAN ANNUAL AND TRADERS' YEAR BOOK. 1901. LONDON: Offices of *African Commerce*. [1901.] [Cloth. 12mo. 160 pp. Price, 2s. 6d.]

THIS book is the result of the first attempt to supply in collected form facts and figures relating to the whole of Africa, for the special use of exporters and importers, manufacturers, and shippers. Information is given in relation to forty-two colonies and countries. The plan of the work is comprehensive, and it gives the impression of being accurate.

COMMERCIAL Relations of the United States with Foreign Countries During the Year 1900. In two volumes. Washington: Government Printing Office. 1901. [Cloth, 8vo. pp. 1241+1057.]

Statistics of Manufactures, 1899-1900. [From the Fifteenth Report on the Statistics of Manufactures of Massachusetts.] Boston. 1901. [8vo. pp. v+61-157.]

NEW TRADE PUBLICATIONS.

THE BOSTON BELTING CO. have issued a new edition of "Rubber Belting. Lacing and Splicing. Suggestions for the Transmission of Power." The information which it contains, with the help of numerous illustrations, makes it a valuable handbook for ready reference for all belt users. [5¾"×8¾". 44 pages.]—Another illustrated pamphlet, devoted to "Fire Hose," is a catalogue of the company's products in this line, including such fire hose appliances as couplings, nozzles, hose racks, and the like, and also the underwriters' specifications and illustrated description of hose test pumps. [5¾"×8¾". 32 pages.] It may be interesting to note that the names are given of 290 cities, in 36 states, to which the company have sold fire hose.—A third new publication from the same company is "Rubber Covered Rollers," relating to an important department of their production, and covering equipment for a great variety of industries. They have made rubber covered rollers for paper making machines as large as 24 inches in diameter and 158 inches "face," or length, such a roller complete weighing 5 tons. [5¾"×8"¾". 16 pages.]

NEW YORK BELTING AND PACKING CO., LIMITED, issue an illustrated pamphlet entitled "New York Vehicle Tire," in which is fully described the features of construction of this new type of tire, and its advantages under various conditions. The pamphlet is attractively got up, and it answers seemingly every possible question that can be asked about the tire, including prices, and the prices of steel channels. This is a specimen of the new series of catalogues now being issued by the New York Belting and Packing Co., each devoted to a particular line of their products. [4½"×7". 23 pages.]

THE DIAMOND RUBBER CO. (Akron, Ohio) have published, under the title "Diamond Carriage and Motor Tires," an exceedingly readable brochure on points to be observed by buyers and users of pneumatic vehicle tires. The company have been making pneumatic tires, for heavy and light vehicles, for six years, and have now become fully committed to the merits of such tires—if made of good material, and constructed to fit the work to be done. This pamphlet is attractive outwardly, and well illustrated within. [4¾"×7¾". 32 pages.]

BOWERS RUBBER CO. (San Francisco, California), the pioneer rubber manufacturers on the Pacific coast, send us a new illustrated catalogue of Mechanical Rubber Goods, which embraces not only the staple lines of such goods as are in use elsewhere, but some specialties which are called for in the mining districts. Of this class are their patented concentrator belts. They make a specialty also of large sized suction hose. [3¾"×6". 62 pages.]

ROBINS BELT CONVEYING CO. (New York) have issued an elaborate new pamphlet, "Coal Handling by Means of Robins Belt Conveyors," for which system a grand prize was awarded at the Paris Exposition of 1901. The system is fully described herein, including some new features, with the aid of several half tone illustrations on a large scale. [9"×12". 24 pages.]

THE RUBBER SPECIALTY CO. (Akron, Ohio) issue a tastefully got up illustrated brochure, calling attention to their products in the way of rubber bands, tubing, sponge rubber, gloves, nipples, ice bags, face masks, and the like. We are certain that our readers would be pleased to see it. [4½"×6½". 8 leaves, in cover.]

ASBEST- UND GUMMIWERKE ALFRED CALMON, AKT.-GES., HAMBURG have issued a new edition, for 1901, of their catalogue, printed in English for foreign use, of their asbestos and mechanical rubber products. This is an exceptionally large asbestos factory, to which has been added a rubber factory,

complete in itself, and on a large scale. The catalogue is illustrated, and quotes prices in English money. [6¾"×9½". 118 pages.]

PIRELLI & CO., the India-rubber and cable manufacturers of Milan, Italy, have issued an illustrated pamphlet in French, describing their cables for very high pressures, and including certificates from experts at Paris and Milan on their 25,000 volt cable exhibited at the Paris Exposition of 1901. It embraces also references to the Pirelli cable exhibit, quoted from THE INDIA RUBBER WORLD, and leading electrical journals. [7¾"-×11½". 16 pages.]

ALSO RECEIVED.

MORGAN & WRIGHT, Chicago=Bicycle Enamels and Enamel Sundries. 8 pp.

United States Rubber Co. (F. D. Balderston, special selling agent) Boston=Tennis, Yachting, and Gymnasium Shoes [price list], 1901. 4 pp.

Frankfurter Asbestwerke Aktiengesellschaft (vormals Louis Wertheim), Niederrad-Frankfurt o/M.=[Illustrated Catalogue]. 29 pp.

The Searls Manufacturing Co., Newark, New Jersey=Carriage and Sleigh Goods [including several items of rubber articles.]

J. W. Buckley Rubber Co., No. 69 Warren street, New York=Rubber Goods for Mechanical Purposes. 24 pp. Also: Net Price List of Bicycle Tires, 1901. 4 pp.

The Painesville Metallic Binding Co., Painesville, Ohio.=[Catalogue of Stair Nosings, etc.] 8 pp.

B. F. Sturtevant Co., Boston.=After Thirty Days. [Relates to speedy recovery from damage by fire.] 8 pp.

Rochester Wringer Co., Inc., Rochester, New York.=Illustrated Catalogue of Self-adjusting Clothes Wringers. 24 pp.

S. Sternau & Co., No. 204 Church street, New York.=The "Holdast" Bath Spray. 12 pp.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED JULY 2, 1901.

- NO. 677,398. Horseshoe pad. August Buer, Hanover, Germany.
 677,415. Cushion tire. Webber G. Kendall, Providence, R. I.
 677,480. Syringe. Mary K. Thomas, Akron, Ohio.
 677,489. Water bag. Sarah A. Woods, Flushing, N. Y.
 677,497. Hoof pad. John A. Buck, Brooklyn, N. Y.
 677,708. Automatic tire inflator. George B. Stacy, Boston, assignor to Alexander H. Spencer, New York city.
 677,810. Pneumatic tire. Uzziel P. Smith, Chicago, assignor of one-half to Thomas Kane, same place.
 677,814. Rubber tire. Charles W. Stapleton, New York city.

ISSUED JULY 9, 1901.

- 677,867. Method of attaching rubber tire to rim. John W. Hawkins, Cuyahoga Falls, Ohio.
 677,983. Pneumatic tire for bicycles. Edwin Hemsted, Toronto, Canada.
 678,055. Rubber vehicle tire. George W. Southwick, Franklin, Mass.
 678,317. Cushion tire. Webber G. Kendall, Providence, R. I.
 678,340. Cushion tire. Joseph Holland, Providence, R. I., assignor to Webber G. Kendall.

ISSUED JULY 16, 1901.

- 678,504. Pneumatic tire. Joseph G. Mooney, Erie, Pa., assignor to Lake Shore Rubber Co., same place.
 678,510. Pneumatic tire and inner tube therefor. Charles G. Page, Oakpark, Ill.
 678,653. Machine for setting rubber tires. Samuel A. Gaede and Henry J. Duckgeischel, Chicago.
 678,850. Rubber hose. William J. Courtney, New York city, assignor to Herman H. Westinghouse, Pittsburgh, Pa.

ISSUED JULY 23, 1901.

- 678,922. Roofing compounds. Christopher W. Walker, Johnsonburg, Pa.
 679,000. Vehicle wheel having resilient tire. Marie Holoabek, Vienna, Austria.

- 679,038. Elastic steel horseshoe. Otto W. Siebenhaar, Ladoga, Wis.
679,280. Cushion tire. James E. Furlong, Providence, R. I.

ISSUED JULY 30, 1901.

- 679,404. Process of extracting India rubber. Auguste V. L. Verneuil, Alexander L. Godefroy-Lebeuf, and Albert L. Arnaud, Paris, France.
679,519. Valve for pneumatic tires. Lyman T. Smith, New Haven, Conn.

DESIGN PATENTS.

- 34,802. Carriage tire and rim. Woodburn Langmuir, New York city.
34,868. Hoof pad. William J. Kent, Brooklyn, N. Y., assignor to Revere Rubber Co., Boston.

TRADE MARK.

- 36,821. Dress shields. The Canfield Rubber Co., Bridgeport, Conn.

ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

- 12,823. Wilbraham Edmunds, 83, Tierney road, Brixton Hill, London. Pneumatic tires. June 24.
12,833. Edward Charles Vaudrey, 36, Chancery lane, London. Pneumatic tires and rims for same. June 24.
12,874. Francis Alban Byrne and Valentine Pfister, Birmingham. Improved method and apparatus for molding and vulcanizing rubber covers of pneumatic tires. June 25.
13,113. Pardon Wilbur Tillinghast and Adolph Thomas Vigneron, 45, Southampton buildings, Chancery lane, London. Improvements in tires and in means for securing the same to wheels. June 27.
13,127. William Frederick Williams, 53, Chancery lane, London. Means of securing tires to wheels. June 27.
13,158. John Thomas Jackson, Sam Jackson, and John Carrington Triffitt, Holbeach, Lincolnshire. Pneumatic tires for bicycles and vehicles. June 28.
13,286. Theodore Sterme, Liverpool. Resilient tires for vehicles. June 29.
13,319. Robert Milne, Manchester. Machine for covering rollers with India rubber. July 1.
13,334. Horace John Barwick, 599, High road, Chiswick, London. Automatic appliance for inflating tires. July 1.
13,347. Frederick Walter Pates, 154, Well street, Hackney, London. Duplex tire instant puncture remover. July 1.
13,349. George Robson, 19, Southampton buildings, Chancery lane, London. Method of and means for longitudinally compressing wired on cushion tires. July 1.
13,407. William Thomas Pritchard and Enoch Armitage, 46, Lincoln's Inn fields, London. Pneumatic tire covers. July 1.
13,408. Carl Nielsen, Anders Christian Andersen, and Laurits Saphurs Andersen. Apparatus for automatically producing a constant air pressure in pneumatic tires. July 1.
13,409. Alexander Latimer, Birmingham. Pneumatic tire covers. July 2.
13,440. Thomas Samuel Hughes, 18, Fulham place, Paddington, London. Pump for pneumatic tires. July 2.
13,535. William Pettinger, West Weatherill, Manchester. Improvements in rims and rubber tires for carriages. July 3.
13,565. Myron Francis Hill, 24, Southampton buildings, Chancery lane, London. Improvements in tires. July 3.
13,575. Martin Dunphy Armstrong, 73, Cheapside, London. Moulds for rubber teats. July 3.
13,671. Maximilian Ziegler, 19, Buckland crescent, Belsize park, London. Improved method of treating decayed rubber. July 5.
13,677. Morland Micholl Dessau, 111, Hatton garden, London. Pneumatic tires. July 5.
13,709. Frederick Le Poidevin, 53, Chancery lane, London. Protective binder for India rubber hose pipes. July 5.
13,713. Anthony Pulbrook and Emily Henrietta Pulbrook, 115, Cannon street, London. Inflatable tires for cycles and vehicles. July 5.
13,734. George Croyden Marks, 18, Southampton buildings, Chancery lane, London. Improvements in devices for equipping vehicle wheels with rubber tires. [The Consolidated Rubber Tire Co., New York.] July 5.
13,767. Oscar Schaefer, 49, Thurlby road, West Norwood, London. Tires for vehicles and means for securing same. July 6.
13,768. Samuel Evans, 143 Dumbarton Road, Glasgow. Detachable pneumatic tires. July 6.
13,899. Emile Eugene Siffred, 47 Lincoln's Inn fields, London. Im-

provements in coin freed apparatus for charging pneumatic tires, with compressed air. July 8.

- 13,949. Richard Steele Fletcher, 8, Quality court, Chancery lane, London. Tires for bicycles and vehicles. July 9.
14,166. Charles Edward Esse, Liverpool. Pneumatic inner tubes of tires. July 11.
14,190. Anne Ellen Phillimore, Stoneleigh, Lansdown, Bath. Ink erasers. July 12.
14,192. Edward Goody, Manchester. Pneumatic tires. July 12.
14,205. Sidney Greenwood, Liverpool. Elastic wheels for cycles and vehicles. July 12.
14,335. Arthur Frederick Evans, 27, Chancery lane, London. Means for preventing deflation of pneumatic tires or puncture. July 13.
14,386. Louis Peter, 53, Chancery lane, London. Pneumatic tires for automobiles. July 15.
14,397. Ernest A. Wilford, 72, Cannon street, London. Casings for pneumatic tires. July 15.
14,441. Richard Green, Jr., Birmingham. Pneumatic tires for cycles and vehicles. July 16.
14,444. Edward Henry Seddon. Pneumatic tires. July 16.
14,492. Harold Bertram Vinten, 18, Buckingham street, Strand, London. Pneumatic tires containing a plurality of inflatable tubes. July 16.
14,555. James Fairclough Butterworth and Cæsar Marter, Manchester. Substitute for leather, India-rubber, Gutta-percha, etc., and articles made therefrom. July 17.
14,586. Edward Everard Preston, 322, High Holborn, London. Pneumatic tires. July 17.
14,623. John Cockburn, Glasgow. Air valves for pneumatic tires. July 18.
14,651. Earl Chandler Whitaker and Frank Persia Whitaker, 53, Chancery lane, London. Vehicle tires and apparatus for the manufacture thereof. July 18.
14,672. Joseph Dinsdale, Jr., 18, Buckingham street, Strand, London. Tires for cycles and vehicles. July 18.
14,750. Carl Paulitschky, Southampton buildings, Chancery lane, London. Improved manufacture of rubber tires, and covers for pneumatic tires. July 19.
14,778. Arthur Wyatt, Bristol. Inner or air tubes of pneumatic tires. July 20.

PATENTS GRANTED.—APPLICATIONS OF 1900.

4604. Life preserver. Montagnoli, E. Rome, Italy. March 10, 1901.
4794. Elastic insertions in boots and shoes. Fowler, H. W., No. 155 La Salle street, Chicago, United States. March 13, 1901.
4866. Means for preventing punctures in pneumatic tires. Soerensen, C. P., and Moeller, F., Roskilde, Denmark. March 14, 1901.
4868. Packing washers. Goltstein, E., 32, Blaubach, Cologne, Germany. March 14, 1901.
4958. India-rubber compositions. Pearson, J. J., No. 40 Wall street, New York. March 15, 1901.
5004. Air valve for pneumatic tire. Gutmann, J., Mannheim, Germany. March 16, 1901.
5114. Air tube for pneumatic tire. Pope, H. E., Highclere, Newbury. March 17, 1901.
5182. Cork and rubber tire. Burrell, T., North Melbourne, Victoria. March 19, 1901.
5312. Rubber tire and means of attachment. Steinhardt, E. R., Hotel Cecil, London. March 20, 1901.
5378. Rubber horseshoe. Lake, H. H., 45, Southampton buildings, London. [Budd Doble Tire Co., No. 114 West Thirty-fourth street, New York.] March 21, 1901.
5716. Pneumatic tires. Corliss, W., Providence, R. I., United States. March 27, 1901.
5810. Exercising apparatus. Fitzgerald, W., Cahergiveen, Kerry, Ireland. March 28, 1901.
6124. Cork and rubber tire. Langgaard, J. H., 99, Tweed street, Liverpool. April 2, 1901.
6167. Means for inflating pneumatic tires automatically. Savoldelli, P. A., Hampstead Heath, N. W. April 3, 1901.
6258. Pneumatic tires. Ochs, F. L., Crescent road, South park, Reigate, Surrey. April 3, 1901.
6300. Rubber and canvas tire. Brewer, E. D., St. John's Wood, London, N. W. April 4, 1901.
6333. Pneumatic tire. Tobler, A., and Samuel H., Paris, France. April 4, 1901.
6450. Pneumatic tire. Preston, E. E., and Kendrick, G. D., Leicester, April 6, 1901.



RUBBER GOODS

Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means "Carbon" grade—a good article; a double diamond means "Double Diamond" grade—a fine article; a triple diamond means "1846 Para" grade—a splendid article and the best we can make. Our brands on hose, belting, packing

*Belting,
Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,*

and other rubber goods are guarantees of high quality and long service.

Chicago,150 Lake St.
St. Louis,411 No. Third St.
San Francisco, 509 Market St.
Boston,24 Summer St.
Philadelphia, 724 Chestnut St.

*C. I. Packing,
Ruby Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.*

NEW YORK BELTING & PACKING CO. LTD

PIONEERS AND LEADERS—25 PARK PLACE, NEW YORK.

Mention The India Rubber World when you write.

ECGE SIGNUM.



THOROUGHLY RELIABLE.

The policy of furnishing only the finest goods that can be produced with perfect materials, latest and best machinery, and highly skilled workmen of long experience, has been, is now, and will continue to be, the policy of

The Mechanical Rubber Company,

CHICAGO, ILL.

Branch Store, No. 1810 Blake Street, Denver, Colo., where we carry a full line of goods.

Manufacturers of all kinds of rubber goods for mechanical uses—Hose, Belting, Packing, Gaskets, Bicycle Tires, Specialties, Moulded Goods, Etc., Etc.

If you are unable to satisfy your trade with goods you are supplying,
If you are in search of good goods at fair prices,
If you cannot get quick deliveries,
If you are not getting fair value for your money,
IN ANY EVENT,

} SEND TO US FOR SAMPLES AND QUOTATIONS.
} WE CAN SUIT YOU EVERY WAY.

FACTORY, GRAND AVE. & ROCKWELL STS

THE MECHANICAL RUBBER CO., 230 Randolph St., Chicago, Ill.

Mention the India Rubber World when you write

MIDSUMMER OUTING OF THE NEW ENGLAND RUBBER CLUB.

THE New England Rubber Club is rapidly getting a reputation for being the most progressive and social trade organization in Boston, and it well deserves such an estimate. During the winter its custom is to have at least two dinners that are typical club affairs, graced by notable wits and orators, and, although restrained in conviviality, the utmost sociability is encouraged. The Midsummer Outing, however, is a picnic pure and simple, and members of the club and guests are cordially invited to do as they please, wear what they like, and not only have a good time them-

fort. Almost every sport that the modern club man affects is here to be found—billiards, tennis, golf, fishing, boating, and bathing, and with rare courtesy the club officials gave over everything into the hands of the rubber men.

Prior to the landing at Misery, the *Empress* coasted along the North Shore for some miles, and gentlemen who were familiar with that part of the country pointed out the attractive residences that adorn that romantic coast. Among these were the beautiful homes of Robert D. Evans, Lester Leland, Colonel Harry E. Converse, and other members of the gum elastic trade.

During this water trip an ample lunch was served, together with a liquid refreshment of some potency, the name of which rhymed well with "lunch." On landing at the Club pier, the members fell into line and marched to the club house, preceded by the band. Here the committee on sports, Messrs. William E. Barker, Fred. C. Hood, and Andrew H. Brown, who had made most complete preparations for the afternoon's fun, at once started the ball rolling. Practically, the popular ball seemed to be the golf ball, twenty-two gentlemen having put down their names as contestants. Others were in for bottle pool, tennis, base-ball, fishing, and bathing, and with these varied sports the afternoon passed very rapidly, so that the call for dinner came almost before any one knew that it was dinner time. The dinner was served in the large dining tent adjoining the main club house, and consisted of the following *ménu*, together with suitable digestive tonics:



W. E. BARKER.



A. H. BROWN.

TWO MEMBERS OF THE SPORTS COMMITTEE.

selves, but see that the other fellow has an equally good time. It was with this care-free spirit, therefore, that some seventy-five members gathered at the North station in Boston at noon, August 20, where a special car was awaiting to transfer them to Salem, where they connected with a special trolley car that took them to Salem Willows, where in turn awaited the *Empress*, the boat that was to convey them to the Misery Island Club.

To digress a moment, it is worth while to say a word regarding Misery Island. This insular tract consists of some eighty acres, just off the beautiful North Shore in full sight of Beverly Farms, Manchester-by-the-Sea, and Magnolia, and is owned by the Misery Island Club, an organization made up of a few wealthy residents of Boston and the North Shore. On the highest point of land is situated a commodious club house, with broad verandas and furnishings which are a rare combination of elegance and com-

- Grape Fruit.
- Clam Chowder.
- Steamed Clams.
- Broiled Live Lobster, Butter Sauce.
- Boiled Turbot, Egg Sauce.
- Creamed Potatoes.
- Green Corn on Cob.
- Cucumber, Tomato, Lettuce Salad.
- Baked Indian Pudding, Ice Cream Sauce.
- Crackers.
- Cream, Camembert, Roquefort Cheese.
- Fruit.
- Cigars.
- Coffee.

After the coffee and cigars, the president of the Club, Gov. A. O. Bourn, announced the prize winners and distributed prizes which were as follows:

In golf, for the lowest net score, George H. Forsyth, the prize



G. P. WHITMORE



W. H. GLEASON.



W. J. KELLY

DINNER AND ENTERTAINMENT COMMITTEE.

being 2 dozen Forsyth golf balls. For the highest net score, Colonel Frank L. Locke, the prize being a miniature croquet set. For the lowest gross score, Fred. C. Hood, 2 dozen Forsyth golf balls. For the lowest gross score, H. F. Wanning, a bag of marbles.

The prize for the smallest fish, secured by George H. Forsyth, was a pair of miniature Candee rubber boots. For the largest fish, caught by G. Edwin Alden, a pair of Boston Rubber Shoe Co.'s fishing boots.

The distribution of the prizes, the remarks of the President, the witty asides of the diners, and the brief speeches of acceptance on the part of the prize winners, furnished a deal of fun and consumed a half hour very pleasantly. The Club then passed a vote of thanks to the Misery Island Club for its courtesy in inviting them to use their house and grounds, and for their general and generous hospitality. The committee on sports and the dinner and entertainment committees were also complimented in the same manner.

Promptly at 8.30 P.M. the excursionists embarked again upon the *Empress*, were transferred to their special trolley car at Salem Willows, re-transferred to a special car in Salem, arriving in Boston shortly after 10 o'clock, all agreeing that they had spent one of the pleasantest days in their whole experience. It may be interesting



MISERY ISLAND AND THE CLUB HOUSE.

here, in recapitulation, to note the names of those who entered the golf tournament, their scores, gross and net, and the handicaps. They are as follows:

Player.	Gross.	Handi-cap.	Net.	Player.	Gross.	Handi-cap.	Net.
George Forsyth...	64	18	46	H. W. Bean . . .	58	0	58
Eugene Clapp....	63	15	47	W. F. Pitcher... 67	8	59	
F. B. Bemis.....	58	8	50	A. B. Jones.....	59	0	59
F. C. Hood.....	52	0	52	E. H. Wiggin....	74	14	60
W. L. Pitcher... 61	8	53	H. C. Mason....	73	12	61	
C. C. Converse... 59	5	54	W. E. Piper....	76	14	62	
A. H. Brown....	60	5	55	W. J. Kelly.....	84	14	70
W. E. Barker....	60	5	55	J. H. Stedman..	91	18	73
S. L. Gillette... 64	9	55	R. B. Wiggin... 90	14	76		
Benton Clement.. 61	5	56	H. F. Wanning.. 103	15	88		
F. D. Balderson . 61	5	56	F. L. Locke	123	18	105	

Those present were:

MEMBERS.

- | | | |
|---------------------|--------------------|---------------------|
| George M. Allerton, | Ira F. Burnham, | F. C. Hood, |
| F. H. Appleton, | Frank T. Carlton, | George H. Hood, |
| C. H. Arnold, | E. H. Clapp, | Fred. H. Jones, |
| F. D. Balderson, | C. C. Converse, | William J. Kelly, |
| W. E. Barker, | Isaac Crocker, | W. S. Knowles, |
| Charles W. Barnes, | John M. Farwell, | George W. Knowlton, |
| Thos. S. Bassett, | John H. Flint, | J. H. Learned, |
| Hon. A. O. Bourn, | George H. Forsyth, | Frank L. Locke, |
| W. D. Brackett, | N. Lincoln Greene, | W. F. McClintock, |
| A. H. Brown, | S. Lewis Gillette, | H. C. Mason, |

MEMBERS.

- | | | |
|------------------|--------------------|-----------------|
| Otto Meyer, | W. L. Pitcher, | H. F. Wanning, |
| James E. Odell, | Arthur Reeve, | G. P. Whitmore, |
| J. S. Patterson, | Arthur W. Stedman, | E. S. Williams. |
| H. C. Pearson, | J. H. Stedman, | |

GUESTS.

- | | | |
|-------------------|-----------------------|------------------------|
| G. Edwin Alden, | H. T. Fletcher, | G. E. B. Putnam, |
| Frank Bemis, | J. L. Garvin, | G. H. Stedman, |
| A. O. Bourn, Jr., | Joseph W. Green, Jr., | Jos. C. Stedman, M. D. |
| S. W. Brown, | C. S. Hunter, | Mr. Towne, |
| Mr. Clement, | Max Loewenthal, | E. H. Wiggin, |
| H. I. Crampton, | Harry W. Noyes, | R. B. Wiggin. |
| E. H. Cutler, | Walter E. Piper, | |
| Walter Dean, | W. F. Pitcher, | |

A FEW NOTES.

EUGENE H. CLAPP's steam yacht, the *Idle Hour*, lay in the offing all day and was visited by numbers of the rubber men, who were charmed with its elegance and its evident fitness for pleasuring in New England waters.

=George H. Hood, who knows every foot of the North Shore, most vividly described the points of interest as the *Empress* steamed along the coast.

=The Forsyth golf ball, donated by the Boston Belting Co., was generally used in the golf tournament. That it is very lively was proved by the long drives, and that it floats can be attested by the many who dove into the pond opposite the first tee-

ing ground.

=The likenesses of two of the members of the committee on sports adorn this report. The third member of the committee, Mr. F. C. Hood, does not appear as an illustration, but he did yeoman's service on the committee nevertheless.

SOME WANTS OF THE RUBBER TRADE.

[184] WE have a letter from Brooklyn, inquiring, "Will you please inform me where I can obtain rubber fruit, such as oranges, apples, lemons, etc.?"

[185] A shoe jobbing firm write asking for the addresses of manufacturers of elastic webbing.

[186] A correspondent in the South wishes the addresses of rubber firms who would consider a new rubber vehicle tire; also, a new valve and stem.

[187] "Who manufactures hose poles?"

[188] "Can you advise us who are the manufacturers of Poulton packing?" [Does this mean "Knowlton," made by a firm in Boston?]

SEND for a free copy of the Index to "Crude Rubber and Compounding Ingredients," by Henry C. Pearson, published by THE INDIA RUBBER WORLD.

PROPAGATING RUBBER TREES IN EUROPE.

BELGIUM long has enjoyed a period of ever increasing prosperity, and it is but natural that a liberal share of her accumulated capital should have been devoted to the development of her recently acquired possessions in Africa. Along with explorers, traders, and government administrators have gone botanists, horticulturists, and planters, and not only is the flora of the immense Congo country studied scientifically, but the economic value of the growths of the various districts closely investigated and experiments made with imported plants. Since the beginning of Belgian interests in Africa the study of India-rubber plants has received careful attention, and, besides the native species, several others have been demonstrated to be capable of cultivation there on a profitable basis.

Closely related to all progress in this direction is a very large and in many ways an ideal greenhouse establishment near Brussels, "L'Horticole Coloniale." Through the members of this establishment it is closely allied to the government of the Congo Free State and to the more important plantation companies there. For a quarter of a century or more a number of explorers have been traveling for L'Horticole Coloniale, or its predecessor (Etablissements Linden), and collecting plants of economic value. All the principal rubber producing plants have thus been united into an interesting collection, each studied and tested as to cultural requirements, productiveness, and the commercial value of its rubber. This arduous work, carried out under the supervision of the eminent horticulturist, Lucien Linden, has led to highly interesting and important results. These researches, which are still in progress, have demonstrated that the various rubber species have widely different characteristics and requirements. But not only is it one object of L'Horticole Coloniale to disseminate the kind of knowledge here alluded to, but it has the more important purpose of serving as a great nursery for the colonial plantations.

Seeds gathered from carefully selected rubber trees are here germinated by hundreds of thousands, and the plants grown for one, two, or three years. They are then thoroughly hardened and finally sent to the country of their destination. In this way the ultimate success of the plantations is as fully assured as it is possible to do. The young plants, already well established in pots, are able to take care of themselves, with a little cultural aid which it is possible to give them in the undeveloped tropical countries. Experience has taught that these nursery grown plants give much better results than those grown on the spot, and though a preparatory cultivation in Europe may seem to be a complication, it really facilitates the

planters' work. Without such a basis of supply from which at a moment's notice large numbers of well prepared plants can be bought, it would indeed often be a life work to establish a plantation. Otherwise, each planter would have to import his own seeds, often from a great distance, as when Brazilian rubber species are to be planted in the Congo valley; it would be tedious work to grow a sufficient number of plants to form a plantation; and when all was done there would be the uncertainty as to whether the seeds were true, or whether the varieties were good, or whether any particular variety was suited to the locality selected for the plantation. All these elements of risk are minimized by the existence of this great nursery at Brussels, from which guaranteed plants may be obtained just when wanted, and when the plantation is ready to receive them. Within the past two years large numbers of rubber and other colonial plants have been shipped to distant countries from Brussels, and with a great degree of success. [The details above are derived from an article by Theodore Eckardt, a landscape architect of Baltimore, in *The Sun* newspaper of that city.]

In this connection may be quoted the following, from a report by the British consul at St. Paul de Loando regarding the efforts to conserve the sources of rubber in the Congo Free State:

"It is now ordained by a decree of the government that each firm exporting rubber from its territories shall plant a certain number of fresh trees, in proportion to its shipments of that article. . . . In addition to legislation for preventing the destruction and insuring the reproduction of rubber giving plants, the Congo government has itself caused fresh varieties of rubber plants to be imported, and is, through its own agents, paying attention to their distribution and cultivation. Among such plants may be mentioned the *Ficus elastica*, the Ceara or *Manihot Glaziovii*, and the *Hevea Brasiliensis*, which furnishes the celebrated Para rubber." The source from which these plants are obtained is, as already indicated, the horticultural establishment at Brussels.

The latest edition of the "Catalogue des Plantes Economiques pour les Colonies" issued by "L'Horticole Coloniale" société anonyme, is a substantial book of 157 pages, of which 25 are devoted to descriptions of the Caoutchouc and Gutta-percha species of which plants can be supplied. There are listed no fewer than 26 species of Caoutchouc, and 5 of Gutta-percha, and also Balata and Chicle. There are included some interesting notes on plantations of some of these species already formed. Seeds of many or all of these species are also supplied. In addition there are full page photogravures showing the appearance of rubber plants in the nurseries.



YOUNG PLANTS OF "HEVEA BRASILIENSIS."

[The engraving represents the general appearance and the relative size of plants grown from seeds of the Para rubber tree, by L'Horticole Coloniale, at Brussels, for forming plantations in the colonies. The three specimens are four, eight, and twelve months old, respectively. The view is reproduced from *La Semaine Horticole*, of Brussels.]

INSULATION FOR A GREAT POWER PLANT.

THERE is being constructed at Thirty-ninth street and East river, New York, a power station for the New York Gas and Electric Light, Heat and Power Co., which will have the largest capacity of any plant in the world—even more than the plant at Niagara Falls as that now stands. The New York plant has been developed gradually since 1896. The cables for the transmission of power are lead covered, three-cylinder, 250,000 circular mils. At first only India-rubber insulation was used, but last season paper was tried, so that now there is about an equal division, or 25 miles of each type of insulation in use.

In the rubber cable each conductor is insulated with $\frac{6}{32}$ of an inch rubber insulating wall. The three conductors are then laid with jute and made into a cable of circular section and another jacket of rubber put on, $\frac{4}{32}$ of an inch in thickness. The rubber compound is 30 per cent. pure Pará. The lead is $\frac{1}{8}$ inch thick, 3 per cent. tin, but with no outside coating of tin. This gives a cable $2\frac{5}{8}$ inches outside diameter, and the experience from laying 50 miles of cable would indicate that this is the largest practical cable that can be installed in a commercial 3-inch duct. The insulation resistance required on the rubber cable was 1000 megohms per mile, measured either between conductors or between conductor and lead. The completed cable was tested to 20,000 volts in the ducts.

The paper cable was similar, but with $\frac{3}{32}$ inch more insulation in the outer jacket, making $\frac{1}{8}$ inch insulating wall in all directions. Insulation resistance required on this was 400 megohms per mile. The paper cable measured $2\frac{11}{16}$ inches outside diameter, and although it has all been installed, yet it was drawn through the 3 inch duct with difficulty; and one would not advise attempting it again, as it was a great mechanical strain on the cable. The natural question in the minds of many is, which is better? It is proper to say that satisfaction has been obtained with both.

The above details are derived from a paper read by Calvin W. Rice before the National Electric Light Association at Niagara Falls.

RUBBER TIRES ON FIRE ENGINES.

SPEAKING of rubber tires, somebody in the tire trade is quoted in the New York *Sun* to the effect that there are twice as many vehicle tires in use to-day as there were two years ago.

"There's a good big bunch of rubber tires in use in the fire department," the tire man continued. "I guess that in Manhattan and Brooklyn boroughs you would find a dozen or more engines thus equipped, and the new engines bought are thus provided. Then there are some hook and ladder trucks with rubber tired wheels, and a good many hose wagons.

"A fire engine is heavy, the wheels are big, and they must have big tires which cost money. A set of rubber tires suitable for use on a fire engine costs in fact from \$400 to \$450. There is no question about the advantages of their use here. With rubber tires an engine goes less often to the repair shop, and so is more continuously in commission. And if you should happen to see a rubber tired engine go around a corner, or get into or out of the tracks of a street railroad, you'd think the advantage gained there was enough to pay for the tires. The engine doesn't swing or slide, but it follows true and the driver knows just where he can go and what he can do with the machine when he's under way.

"I should say that it would be profitable for the city to use

these tires on its engines at practically any cost, but it wouldn't surprise me to learn that, costly as they are, what with the machinery carried and all, the use of the tires results in an actual economy."

BUTTON HOLES IN MACKINTOSHES.

ONE of the most perplexing problems that confronted the manufacturer in the earlier days of mackintosh making was button holing the garment. The large number of button holes required made a large force of hands necessary and, besides, it was essential that the work should be strong, with good wearing qualities, and also that it should be of handsome appearance. The nature of the material rendered it very difficult to produce button holes possessing these qualities and impossible to do so at all, except at extravagant cost.

The use of the Singer Manufacturing Co.'s button hole machine (No. 61-4, in its present improved form) has happily solved this problem. Its use in mackintosh factories is now practically universal. It produces button holes of uniform excellence in durability and in appearance so rapidly as to reduce the cost to a minimum figure.

The machine is fitted with an automatic cutter (which alone effects a saving of from 25 to 30 per cent.), automatic stop, foot presser, and in fact with every improved device for adding to the convenience of the operator, enhancing production, and improving the quality of the work.

The positive simplicity and durability of the mechanism and the fact that it can be successfully used by any intelligent sewing machine operator has made this machine very popular with manufacturers. A view of the machine appears in the advertising pages of this issue. A sister machine (Singer No. 16-69), specially arranged for sewing buttons to mackintoshes, extensively used in some of the best factories, together with other productions of the same company, will be noticed in future issues of THE INDIA RUBBER WORLD.

RUBBER SHOES IN THE WORLD'S TRADE.

THE exports of rubber boots and shoes from the United States during the first six months of 1901 have been treated elsewhere in this paper in detail. The total was 386,657 pairs. During the same period there were exported by Great Britain 660,732 pairs. The German statistics give only weights—286,220 pounds for the six months. The values officially stated are:

United States.....	\$200,952
Great Britain.....	£73,261= 366,305
Germany.....	M716,000= 179,000

The values given above average 52 cents per pair for American goods and 2s. 2½d. for British, or about 53 cents. The greater part of the American exports in this line go out usually in the latter half of the year, no fewer than 1,122,443 pairs having been exported between July 1 and December 31, 1900. It remains to be seen whether a similar rule holds with regard to the other countries named.

The distribution of the German exports was: To Great Britain 69.2 per cent.; Belgium 6.7; France 5.7; Denmark 1.5; other countries 16.9 per cent. The imports of rubber footwear into Germany for the six months amounted in value to 2,556,000 marks (= \$639,000). Calculating by weight, 83.2 per cent. of the whole came from Russia, 10.9 per cent. from the United States, 4.1 per cent. from Great Britain, and the remainder from other countries. It would appear, therefore, that Germany took \$531,000 worth of Russian rubber shoes.

NEWS OF THE AMERICAN RUBBER TRADE.

THE RUBBER SHOE FACTORIES.

THE footwear department of the factory of the National India Rubber Co. (Bristol, Rhode Island) suspended work on August 10, it being announced that the suspension was for one month. About 700 hands were affected, some of whom have left Bristol temporarily to work elsewhere. The factory had been closed during the first week in July.—The "Alice" mill of the Woonsocket Rubber Co. (Woonsocket, Rhode Island) was closed on August 3, for one month, putting out of employment about 1000 hands. Both the "Alice" and the Millville mills were closed during the first week in July.—The factory of The L. Candee & Co. (New Haven, Connecticut) was closed during the first week in July, and has since been running 8 hours per day.—The Goodyear's India Rubber Glove Manufacturing Co.'s factory (Nauvabout, Connecticut) has been reported busy. Since April 1 about 150 new hands have been taught to make rubber shoes.—The Boston Rubber Shoe Co. are reported to have booked, during the first two months of the business year, orders for 300,000 cases of rubber boots and shoes. As the average is probably 20 pairs to the case, this means 6,000,000 pairs—enough to run the factories for months to come.—The factory of the Lambertville Rubber Co. (Lambertville, New Jersey) since the shutdown for the first week in August, has been running five days in the week.

DUNLOP TIRES TO BE MADE AT HARTFORD.

THE American Dunlop Tire Co. have issued a circular from Belleville, New Jersey, in which they announce: "The rubber used in the construction of the Dunlop tire has for some time past been made for us by the Hartford Rubber Works Co., and to better avail ourselves of the splendid facilities of their organization, the entire manufacture and sale of the Dunlop tire will hereafter be conducted from Hartford. All correspondence should, therefore, be addressed to the Dunlop Department, Hartford Rubber Works Co., Hartford, Connecticut."—The Dunlop company, as well as the Hartford Rubber Works, are embraced in the Rubber Goods Manufacturing Co. The factory at Belleville, at which the tire parts have been assembled, will be closed. Mr. Kirk Brown retains his connection with the company, but it is reported that he will not go to Hartford.

STANDARD RUBBER AND OILCLOTH CO.

THE land and buildings occupied formerly by the Standard Rubber Co. (Campello, Massachusetts), and so much of the machinery as was not disposed of at the recent trustee's sale, have been purchased by Patrick Cavanaugh, of the New York firm of Cavanaugh Brothers & Knapp, who conduct a business of supplying various lines of goods to the United States government on contracts. The Campello plant will be operated under the style of the Standard Rubber and Oilcloth Co. The firm mentioned are filling a contract for army ponchos, the remainder of which will be manufactured at the Standard factory.

A RUBBER COMPANY TO TRY PLANTING.

MR. HARRY E. WAGONER, the president, and some of the other officers of the Monarch Rubber Co. (St. Louis) are interested in a plan for establishing a rubber plantation in Honduras. It is, in fact, spoken of as chiefly the enterprise of the Monarch company. One thousand acres will be developed near the mouth of the Black river, three miles from the northeastern Honduras coast and 70 miles from Truxillo, the principal city in that republic. Allister K. Stewart, of St. Louis, went to

Honduras in July to form the first nursery and to begin the preparation of ground for planting. He will be assisted on the plantation by Alfred Ramel, also of St. Louis, and a stockholder in the company, who has been engaged in scientific work for the United States government. Through his efforts will be established on the plantation a meteorological station and an agricultural experiment station, with which the department of agriculture at Washington will coöperate.

THE DAVENPORT TIRE DECISION.

AT Keokuk, Iowa, on July 22, Judge McPherson, in the United States circuit court in the southern district of Iowa, denied the motion of The Consolidated Rubber Tire Co. for a temporary injunction restraining the Kelly Springfield Tire Co. (Davenport, Iowa) and Robert Kercheval, the president of the latter, from carrying on business under their corporate name, or from branding the same on solid vehicle tires marketed by them. It appeared from the evidence that in 1897 the Rubber Tire Wheel Co. (Springfield, Ohio) and Mr. Kercheval entered into a contract for the sale by the latter of the former's tires in Iowa and Nebraska, and parts of other states. With the knowledge and consent of the Rubber Tire Wheel Co., and of the Consolidated Rubber Tire Co., into which it had been merged, Mr. Kercheval had his business incorporated August 31, 1899, under Iowa laws, as the Kelly Springfield Rubber Tire Co. Later the parties disagreed, and The Consolidated Rubber Tire Co. brought suit against the Davenport company to recover royalties, and the defendants filed a counter claim in a greater sum. The action at law has not been tried and is still pending. The Davenport company has since obtained its rubber elsewhere. It was then sought by the plaintiff company to restrain the Davenport corporation from branding goods "Kelly Springfield Rubber Tire Co."—the corporate name of the concern—though it was not claimed that it had claimed to handle or sell the goods of The Consolidated Rubber Tire Co. since the disagreement above referred to. The decision of the court concludes as follows:

"Under the showing thus far made, it seems to me to be a case not so much to protect itself from unfair trade, as it is a case of some consolidated rubber tire companies seeking to control the trade of the country, and seeking to control those who are not in the consolidation or combine. And I regard such efforts with but little favor. An honest competition should not be thus stifled. The case will be continued for hearing on evidence taken of cross examination, and on evidence much more satisfactory than *ex-parte* affidavits, and the temporary injunction is denied."

FAIRFIELD RUBBER CO.

THIS company advise us that October will find them with their capacity more than doubled. Their new mill will be equipped with all the latest appliances for the manufacture of carriage cloth and similar goods. The additional building will include a large stock room, shipping room, office, heater, a new engine, calenders, mills, etc. For several months past the factory has been run nights, on account of the pressure of orders.

ELASTIC WEB CONSOLIDATION.

THE Bridgeport Elastic Web Co. (Bridgeport, Connecticut), capitalized at \$125,000, have been merged into the Hub Gore makers (Boston), a corporation which dates from 1883. The Bridgeport factory will be operated for an indefinite period,

though the work eventually will be consolidated at Boston. The officers of the Bridgeport company were: Edward Sterling, president; E. B. Hawley, treasurer; E. W. Marsh, secretary. The factory has a capacity for the employment of 200 hands.

TRADE OPPORTUNITY IN FRANCE.

A GENTLEMAN in Paris, who has been connected with the rubber industry for twenty years, having managed important rubber factories in both France and Germany, and who now is a consulting engineer for important concerns in the industry, writes to THE INDIA RUBBER WORLD to say that he is in a position to sell American rubber and other machinery, and he invites correspondence through the office of this journal.

HALL SECTIONAL TIRE CHANGES HANDS.

THE Consolidated Rubber Tire Co. have purchased from Frank E. Hall, of Boston, the right to use his sectional rubber vehicle tire. This tire has been tested extensively by the Electric Vehicle Co. in New York city, and is regarded as being well adapted for use on heavy automobiles, on account of its staying qualities, besides which it is claimed to require less current than either the ordinary solid or the pneumatic tire. The Hall tire manufactured originally by the Newton Rubber Works, was fully described and illustrated in THE INDIA RUBBER WORLD of August 1, 1898.

SPRINGFIELD RUBBER TIRE ROCKER CO.

THIS company was organized at Springfield, Ohio, June 1, to control the invention of James D. Berry for rubber bases for chair rockers. It is composed of A. T. Sweetser and Charles Bird.

NEW YORK STOCK EXCHANGE FIGURES.

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending July 27	1,000	30	26 $\frac{7}{8}$	600	78	77 $\frac{1}{2}$
Week ending Aug. 3	1,000	31	29 $\frac{1}{2}$	200	78 $\frac{7}{8}$	78 $\frac{1}{2}$
Week ending Aug. 10	4,200	29	26	200	77	76 $\frac{1}{2}$
Week ending Aug. 17	400	29 $\frac{1}{4}$	27	..	..	..
Week ending Aug. 24	2,600	31 $\frac{1}{4}$	28	600	79	77

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending July 27	1,100	20	19	1,650	59 $\frac{3}{4}$	58
Week ending Aug. 3	2,060	19 $\frac{7}{8}$	18	2,400	58 $\frac{5}{8}$	55
Week ending Aug. 10	445	18	17 $\frac{1}{4}$	268	56	55
Week ending Aug. 17	—	—	—	335	56	56
Week ending Aug. 24	1,200	20 $\frac{7}{8}$	18	800	59	57 $\frac{1}{4}$

COMBINATION RUBBER AND BELTING CO.

THE factory at Bloomfield, New Jersey, is reported to be very busy in all departments. The facilities are being increased in the way of hydraulic presses, heaters, etc. It is contemplated to put up an additional building, to contain belting and hose rooms, at an expense of about \$30,000. The company have been particularly active in the manufacture of their "Indestructene" belt, and also molded goods. They have a new catalogue in the hands of the printers.

TRADE NEWS NOTES.

THE Manhattan Rubber Manufacturing Co. (New York) have been at work for some time past on extensions to their factory, at Passaic, New Jersey, which will be completed by the end of the summer, largely increasing the capacity of the plant.

=The Beacon Falls Rubber Shoe Co. (Beacon Falls, Conn.) have opened a store in New York, at No. 106 Duane street,

under the management of James Huggins, who has been identified with the rubber footwear trade for many years.

=The Hood Rubber Co. (Boston), have issued a handsome new lithographed hanger, representing "Little Red Riding Hood" wearing a pair of dainty rubber boots of the Hood make.

=The Philadelphia Museum reports that its foreign bureau has heard from a Hongkong firm who stand ready to give a good order for American rubber shoes. English goods in this line have held that market hitherto.

=The annual convention of the New England Stationary Engineers, at Springfield, Massachusetts, early in August, attended by about 250 delegates, was made an occasion for an exhibition of packings and asbestos goods for boilers and pipes, of which many manufacturers took advantage.

=The Industrial Trust Co. (Providence, Rhode Island), of which Colonel Samuel P. Colt, of the rubber industry, is president, has increased its capital from \$1,200,000 to \$1,500,000. The Hon. Levi P. Morton, of the Morton Trust Co. (New York), has become a director in the Industrial.

=The North American Rubber Co. is now the corporate title of what was formerly the American Rubberine Co., with offices at No. 135 Broadway, New York, and factory at Marion, New Jersey. They are manufacturing not only "Rubberine," but also some specialties in molded rubber work in which their substitute is included. Their latest product is the "Black V Heel."

=The Hartford Rubber Works Co. have established a depot at Des Moines, Iowa, with the Harrah & Stewart Manufacturing Co., for the sale and attachment of their solid rubber carriage tires.

=William Jameson has resigned as superintendent of the Fisk Rubber Co. (Chicopee Falls, Mass.) to accept the superintendency of the Goshen Rubber Works, (Goshen, Indiana). Mr. Jameson's record at the Fisk factory was a good one and he can be relied upon to do excellent service in his new position.

=The Manufactured Rubber Co. (Philadelphia), it is reported, will again be reorganized. Operations thus far have not fulfilled expectations, but the officials think that new methods of manufacture in prospect will make a wider market for their product. The high price of linseed oil has been unfavorable to the company, but they are reported to be paying expenses.

=The Easthampton (Mass.) Rubber Thread Co. are about to extend their new mill 50 feet at the east end, making it 250 feet long. C. W. Smith, who built the mill, has the contract for the extension.

=The Vim Co. (Chicago), makers of the "Vim" bicycles, catalogue also two styles of tires, bearing the company's brand One is called the "Alligator" puncture proof self healing tire, of the single tube type. The other, the "No. 80" double tube tire, patented, is described as being "the first double tube tire ever placed on the market that is exactly like the Morgan & Wright and still does not conflict with that patent." These tires are described as being made in Chicago.

= "Grand Rapids in the Year 1901" is the title of an attractive booklet issued by the board of trade of Grand Rapids, Michigan, containing much information relative to the business of that city and illustrated with views of the leading industrial and business establishments. A prominent space is given to the Grand Rapids Felt Boot Co., manufacturers of felt and rubber boots.

=The Apsley Rubber Co. (Hudson, Mass.) are sending out an advertising novelty in the form of a folder, in the pocket of which there is placed a piece of courtplaster.

=The salesmen of the Linthicum Rubber Co. (Baltimore, Md.), to the number of eleven, had an outing, beginning August 9, going by water to Providence, R. I., where is located the factory of the Joseph Banigan Rubber Co., whence they went to Newport, New York, and Long Branch.

=Patterson & Co., druggists, of Heppner, Oregon, send to THE INDIA RUBBER WORLD a 4 page circular, 8"×10", calling the attention of their customers to the rubber goods they handle, and pointing out the advantages of the same. The circular is well illustrated, and the method appears to be a good one to further the sale of the articles described.

=The Goodyear Tire and Rubber Co. (Akron, Ohio) are reported to have closed a contract, involving \$50,000, for equipping with their endless solid rubber tires the electric cabs of the New York Electrical Transportation Co.

=Owing to the liquidation of the rubber business of Otto G. Mayer & Co. (New York), Mr. George R. Meeker, who was one of the most successful and popular men, has gone into the rubber brokerage business for himself, with offices at Nos. 78-80 Broad street, New York.

=Otto G. Mayer & Co., importers of crude rubber, New York have gone into liquidation, and will give up the crude rubber business entirely.

=F. H. Cooley, dealer in cycles and sundries, Westfield, Massachusetts, has added to his stock a line of rubber goods—including hose, mats, druggists' sundries, and the like. There has not been a rubber goods store in Westfield hitherto.

=The annual picnic of the employés of The La Crosse Rubber Mills Co. (La Crosse, Wisconsin) was to take place on August 30. Their yearly picnics have always proved very successful.

=The Stamford Rubber Supply Co. (Stamford, Connecticut) are now fully started in business, in the manufacture of rubber substitutes and dealing in rubber manufacturers' supplies generally. The manager of this company is P. Carter Bell, who is very generally known as a chemist of experience in relation to the rubber industry.

NEW INCORPORATIONS.

WATERBURY Rubber Manufacturing Co. (New York), July 3, under New York laws; capital, \$100,000. Directors: A. H. Howe, Jersey City, N. J.; G. A. Howe, Vineland, N. J.; W. J. Beairsto, Yonkers, N. Y. This company have done a jobbing business as a partnership since 1882 and as a New Jersey corporation since 1888. Under the new charter there has been an increase of capital and new features are understood to be in prospect.

=Pneumatic Mattress and Cushion Co. (New York), July 30, under New York laws, to manufacture rubber air goods; capital, \$100,000. Frank L. Sill, president; B. F. Funk, treasurer; W. J. Shilladay, secretary (and superintendent and general manager); W. J. Wheeler, V. Hybinette, and O. L. Simpson, additional directors. Office: No. 3 South street, New York; factory at Reading, Mass. The new company succeed a corporation of the same name formed under West Virginia laws, at Reading, Mass., something over two years ago. Mattresses and cushions are made for steamers, yachts, camping outfits, household use, etc., under patents granted to A. A. Young, who was connected with the old company and is associated with the new. The goods were described in THE INDIA RUBBER WORLD of April 1, 1899 [page 186.]

=The Standard Rubber Co., June 3, under Ohio laws. Incorporators: H. S. Walton, C. E. S. Hickey, Ely C. Hammerle, E. I. Smith, Manus Shoemaker—said to be of Akron, Ohio. A report from Akron states that "the parties must be people from out of town, as no one seems to know them here."

=Crescent Flexible Armor Hose Co. (Trenton), July 31, under New Jersey laws, to manufacture rubber goods, but particularly steel and iron armor for rubber hose, and insulated wire and cables; capital, \$25,000. Incorporators: C. Edward Murray, Samuel Cadwalader, Edgar T. Phillips.

PERSONAL MENTION.

THE HON. ELISHA S. CONVERSE, president of the Boston Rubber Shoe Co., on Sunday, July 28, celebrated his eighty-first birthday, quietly, with his family and a few friends, at his home in Malden, Massachusetts. In the morning he attended the First Baptist church, where the sermon was by the Rev. Dr. D. W. Faunce, Mr. Converse's former pastor, but now of Providence, Rhode Island. Later Dr. Faunce dined at Mr. Converse's home. Mr. Converse is apparently in as good health as when, a year ago, a large number of friends joined him in the celebration of his eightieth birthday, of which the INDIA RUBBER WORLD gave an account at the time.

=Mr. Frank H. Turner, who was elected recently vice president of the Hartford Rubber Works Co., is mentioned by the Syracuse Post-Standard, as being native of Malone, New York, which town he left eighteen years ago to go to Hartford.

=Mr. Georg M. Hassel, manager of the Aktieselskabet den Norske Galoge- og Gummivarefabrik—the first and only rubber factory in Norway, located at Drammen, near Christiania—was in the United States lately, on his second visit to this country, and favored THE INDIA RUBBER WORLD with a call. He was concerned principally with the examination of new rubber machinery. The production of the Drammen factory is mainly "galoches." Beginning May 1, 1898, the manufacture of these goods has been carried on with such success that it is estimated that the company now supply three-fourths of the Norwegian demand. Prior to that date most of the rubbers worn there came from Russia.

=Willis A. Darling has been spending the summer at Camp Sunshine, on Moosehead Lake, Maine. He has his family with him and is having a most delightful vacation in one of the prettiest camps on the Lake, a camp, by the way, in which he is half owner and where he has spent a part of the fishing season for many years.

=The death of Jonathan Stewart, at Trenton, New Jersey, July 26, recalls the heavy loss which he sustained in the collapse of the Star Rubber Co., in that city, in 1891. The company was in entire charge of its secretary, the late Thomas A. Bell, whose operations led to a failure involving over \$1,000,000. Mr. Stewart was then a prosperous grocery merchant, but his business was ruined by having to pay \$300,000 on account of the rubber failure. Although in his eighty-third year at the time, he reentered active business again, in an attempt to recoup his fortune.

MAHONING RUBBER MANUFACTURING CO.

THIS new company has fixed upon a line of trade marks, or brands, for their goods that are distinctive in appearance and not at all likely to become confused with those of any other factory. Several of these brands are shown in *fac simile* in the company's advertisement in this paper.

NEW RUBBER COMPANY IN CANADA.

THE Strathcona Rubber Co. have been incorporated, in Montreal, to manufacture rubber clothing and other rubber goods, with an authorized capital of \$50,000, of which \$25,000 has been subscribed. The largest stockholder and general manager of the company is E. L. Rosenthal, some time superintendent of the coat department of the Canadian Rubber Co.

A NEW TIRE FABRIC.

A PATENT has been allowed and will issue September 10, to C. E. Woodward (Chicopee Falls, Mass.), for "Fabrics for Use in the Production of Air-tight Tubing." It has already seen extensive service, having been used for fifteen months in the manufacture of several thousand automobile and carriage tires and with marked success. The fabric is designed especially to meet the requirements of heavy vehicle tires, but in its various forms it may be utilized in all kinds of pneumatic tires, and also hose.

This fabric differs from ordinary close woven fabric, in that the warp and the woof are different in character, and each has a distinct function in the completed tube or tire. The warps are hard, cable-twisted yarns which resist all tensional strains, while the woofs are single-twisted soft padding threads, which protect the warps from abrading each other, instead of acting to abrade them, as is the case in ordinary close woven fabrics. The soft woof threads also help to distribute all strains and improve the puncture-resisting quality of the tire, on the same principle as the use of wadding. In building up a tube or tire, layers of the improved fabric are applied in the usual manner, so that the strong warp threads of one layer or coil of fabric are crossed at right angles by the warp threads of the other layer or coil.

Tires made from this fabric are stronger from the fact that when fully inflated the soft woofs allow all of the warps to come to a uniform tension, in which condition they resist all strains from within or without to the best advantage. The tires also are notably easy riding, as the fabric has all the speed quality of the thread fabric in which no woofs are used; they are durable and repairable, as the fabric has all the advantages of a stable close woven cloth; they are seldom punctured, as the soft woofs compacted by pressure resist like wadding. In automobile or vehicle tires, where several layers of fabric are used, this fabric is especially valuable, as by means of it internal friction in the thick wall of the tire is reduced to a minimum.

CHEMISTRY OF INDIA-RUBBER.

IN a paper on India-rubber read by Frederick Davis at a meeting of the London Chemists' Assistants' Association the author remarked that the latter, like the milk of animals, consists of a number of oil globules held in suspension in the form of an emulsion. Chemically, this oil, in the case of rubber, is a terpene, $C_{10}H_{16}$, which, by oxidation, becomes an oxidized terpene, or resin; hence its liability to "perish," the juice becoming oxidized so that the resin is formed and the mass becomes brittle. The author mentioned that the *latices* of *Hevea Brasiliensis*, *Hevea confusa*, *Castilloa elastica*, and *Manihot Glaziovii* contain very little resin, and do not readily oxidize; consequently the rubber from those plants is of greater service and more in demand than that from other sources. He also stated that the *latex* may be stored in stoppered bottles for some little time without any apparent change taking place, but eventually it becomes solid. In regard to coagulation, experience has shown that the *latex* may be kept free from coagulation for a time by the addition of a dilute solution of ammonia, but heat or the presence of an acid of any kind favors coagulation. Mr. Davis mentioned that, in order to promote the rapid production of rubber, the suggestion has been made that seeds of plants yielding rubber should be planted annually, and that the year-old plants should be pulled up and boiled in water, when rubber would separate. Such a method

would not, in his opinion, answer, because he found that no true rubber is produced in the first year, but a modification, to which the term "viscin" has been given, having the plasticity of rubber but not the durability.—*Druggists' Circular*.

RUBBER NOTES FROM EUROPE.

THE Dunlop Pneumatic Tyre Co., Limited, brought suit against David Moseley & Sons, rubber manufacturers, of Manchester, England, to obtain a construction of an agreement whereby the plaintiffs were to have the exclusive use of the "Flexifort" tire fabric, of which the defendants are the patentees. The Dunlops were to take not less than 100,000 yards per year. It was claimed in this action that the Moseleys were selling a fabric practically similar to the "Flexifort" to other tire firms. Mr. Justice Joyce, after hearing the testimony, decided that the "string cloth," which the Messrs. Moseley were selling for tires, at a lower price, did not come within the definition of "Flexifort" patent cloth, as described in the agreement.

—The French ministry of public works has issued a circular to the railways, relative to hygienic precautions against infection. Sweeping and dusting in the cars is prohibited, and washing required. The companies are requested to remove all unwashable floor coverings, and substitute those of rubber or linoleum.

—In the British house of commons on July 15, a member of the government stated that the manufacture of the Pacific cable would be begun during the week, and that the cable board was satisfied as to the ability of the contractors to complete the work by the end of 1902. There had already been paid on the contract, on March 31, £207,433. The house of commons has since voted so much of £2,000,000 (=\$10,000,000) as may be required to pay the home government's share in the cost of the cable. The Pacific Cable board have been advertising for a general manager for the cable. The Telegraph Construction and Maintenance Co., Limited, the contractors for the cable, are having built an additional cable ship, to be employed in laying the new line.

—The Asbest- und Gummiwerke Alfred Calmon. Act.-Ges. (Hamburg, Germany), have taken new and larger quarters in London, at 6, Sheppy place, Minories, where they occupy an entire building.

—The Goodyear Tire and Rubber Co. (Akron, Ohio), are represented in London by Davis, Allen & Co., at 5-7, Singer street, Tabernacle street, and are introducing detachable double tube tires, under the Scott-Rogers patent.

—The Frankfurter Asbestwerke Actiengesellschaft (Frankfurt o/M.), with 1,200,000 marks capital, earned during the business year 1900, after writing off 67,786 marks, a surplus of 183,776 marks, disposed of as follows: 12 per cent. dividend, 144,000 marks; reserve, 9035; royalties, 16,100; gratification to officers, 5000; guaranty fund, 4337; carried forward, 5302 marks.

THE Amazon Steam Navigation Co., Limited, held their annual meeting in London July 25. The profits during 1900 permitted dividends to be declared amounting to 4 per cent. During the latter half of 1900 their business shared in the general depression in Brazil. At the end of the year there was due them from the governments at Pará and Manáos arrears of subsidies amounting to £28,311, and from merchants £50,000, of which latter amount £10,000 had since been collected. Two of the company's old steamers had been retired, and four new ones added to the service.

REVIEW OF THE CRUDE RUBBER MARKET.

THE tendency of the rubber market is again upward, the most marked change for several months past having taken place during the latter half of August. In various articles printed in this issue indications occur of conditions pointing to such a change in relation to Pará sorts. Two immediate causes for the recent advance have been referred to, viz.: Active buying for account of some manufacturers who delayed their purchases in the hope that prices would go still lower, and buying to cover "short" sales made some time ago, at prices lower than now obtained in any market. The demand in European markets is good, and stocks in primary markets low. With regard to the effect upon the manufacturing interest of such fluctuations as the rise witnessed during the past month, it is probable that many concerns are in a position to be inconvenienced much less than once would have been the case. As THE INDIA RUBBER WORLD said in February last: "Manufacturers have it in their power, to a certain extent, to protect themselves against some of the unpleasant effects of fluctuations in prices by keeping on hand larger stocks of rubber, instead of the 'hand to mouth' policy of buying." There is reason to believe that this method of creating an "invisible supply"—the extent of which no speculative interest can figure on—is becoming more generally adopted from year to year, and it cannot fail to result beneficially to the industry. Without such reserves, the consumer is at all times exposed to the danger that prices may suddenly go up, without his having time first to replenish his stocks.

New York quotations on August 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new....85	@86	Tongues.....46	@47
Islands, fine, old....87	@88	Sierra Leone.....47	@65
Upriver, fine, new....89	@90	Benguella.53	@54
Upriver, fine, old....90	@91	Cameroon ball.....46	@47
Islands, coarse, new....47	@48	Flake and lumps.....33	@35
Islands, coarse, old....	@	Accra flake.....17	@18
Upriver, coarse, new....64	@65	Accra buttons.....46	@47
Upriver, coarse, old....66	@67	Accra strips.....	@
Caucho (Peruvian) sheet 53	@54	Lagos buttons.....45	@46
Caucho (Peruvian) ball 64	@65	Lagos strips.....	@
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage...54	@55	Madagascar, black....	@
Guayaquil, strip.....50	@51	EAST INDIAN.	
Nicaragua, scrap...53	@54	Assam.....60	@61
Mangabeira, sheet...40	@41	Borneo.....36	@46

Late Pará cables quote:

	Per Kilo.		Per Kilo
Islands, fine.	6\$000	Upriver, fine.....	7\$000
Islands, coarse	2\$700	Upriver, coarse.....	4\$400

Exchange 10 1/2 d.

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows:

"During August the market for commercial paper has been quite steady, with a fair demand from out of town banks at 4 1/2 @ 5 per cent. for the best rubber names, and 5 1/2 @ 6 per cent. for the smaller ones, but city banks have not been buying much."

Para.

A CORRESPONDENT writes: "The Islands crop for the new season is reported to be a very good one, thus partially compensating for an underproduction in the upriver districts. Altogether a final decrease of 10 per cent. as compared with the last crop, is anticipated." Other estimates are as high as 20 per cent. shortage.

July receipts at Pará, including transshipments from Manãos, exceeded somewhat the estimates made in advance. At last advices, however, it did not appear as if the estimated receipts for August would be forthcoming. The estimate was 1500 tons, including 100 tons of Caucho. Receipts for the first 26 days of the month were 1000 tons, including 95 tons of Caucho.

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.					
	Fine and Medium.	Coarse.	Total 1901.	Total 1900.	Total 1899.	
Stocks, June 30.....tons	792	87 =	879	603	418	
Arrivals, July.....	265	183 =	448	308	371	
Aggregating.....	1057	270 =	1327	911	789	
Deliveries, July.....	423	180 =	603	413	438	
Stocks, July 31.....	634	90 =	724	498	351	
	PARÁ.			ENGLAND.		
	1901.	1900.	1899.	1901.	1900.	1899.
Stocks, June 30.....	37	160	350	1025	1475	1000
Arrivals, July.....	1115	760	1050	605	675	220
Aggregating.....	1152	920	1400	1630	2150	1220
Deliveries, July.....	937	550	1140	700	650	550
Stocks, July 31... ..	215	370	260	930	1500	670
				1901.	1900.	1899.
World's supply, July 31.....				2536	2651	1941
Pará receipts, July 1 to July 31.....				1115	760	1050
Afloat from Pará to United States, July 31..				35	98	91
Afloat from Pará to Europe, July 31.....				632	155	549

United States Rubber Imports.

For fiscal years ended June 30—in pounds:

	FROM.	1899.	1900.	1901.
United Kingdom.		10,735,223	8,611,061	7,461,673
Germany.....		1,887,161	1,750,498	1,673,234
Other Europe.		6,103,926	6,626,648	7,854,828
Central America		1,486,783	1,428,224	1,279,099
Mexico		324,730	420,612	297,691
West Indies.....		30,069	12,291	45,578
Brazil.....		27,464,654	28,175,787	34,900,198
Other South America.....		1,981,291	1,642,191	1,255,041
East Indies.....		999,877	643,793	466,056
Africa.....		5,734	....	....
Other Countries.....		43,618	66,033	42,131
Total.....		51,063,066	49,377,138	55,275,529
Value.....		\$31,707,630	\$31,376,867	\$28,455,383
Average, per pound.....		62.09 cts.	63.54 cts.	53.28 cts.

EXPORTS of Rubber.....	2,806,494	3,751,698	3,305,945
Net Imports.....	48,256,572	45,625,440	51,969,584

Crude Rubber Exports from New York.

DURING April crude India-rubber was shipped from the port of New York, in value as follows: To Liverpool \$64,033; other British ports \$15,053; Hamburg \$684; Havre \$800; Rotterdam \$955; Stockholm \$1749; all other ports \$496; total \$83,770.

During May, June, and July, such exports were:

To Liverpool.....	\$276,322
To London.....	61,652
To other British ports.....	5,943
To Hamburg.....	61,466
To Havre.....	13,396
To Stockholm.....	1,003
To other ports.....	4,883
	\$429,665

Liverpool.

MARIUS & LEVY report [August 15]: "There is not the slightest doubt but that the next [Pará] crop will be short by about 20 per cent., the discrepancies all round amounting to something like 4000 to 5000 tons, and the present weakness of the market will, in our opinion, not be of long duration. Our senior partner, who has just returned from a year's sojourn in Amazonas, strongly confirms our views. Last year the Pará and Peruvian stocks were, on August 1, 1489 tons, and price for Fine was 4/- @ 4/0½. This year the stock was 932 tons, and price of Fine 3/7 @ 3/7¼, and meanwhile the consumption has increased nearly 6 per cent.. Another unexpected fall in the receipts is in the Bolivian kinds, business having been exceedingly bad on the rivers Madeira, Beni, Acre, etc., combined with the late heavy losses and disasters in the trade. It is apparent that there is no inducement for merchants to send goods and foodstuffs to that district." This firm is still of the opinion that the price of 4/6 is likely to be attained before the end of the year.

J. J. Fischer & Co., Limited, report Liverpool stocks:

	Apr. 30.	May 31.	June 30.	July 31.
Pará: Fine.....	1082 tons	854 tons	790 tons	747 tons
Medium	179 "	149 "	112 "	93 "
Negroheads.....	255 "	241 "	178 "	127 "
African	792 "	852 "	768 "	728 "
Peruvian	294 "	371 "	433 "	375 "
Mangabeira.....	418 pkgs	378 pkgs	331 pkgs	401 pkgs
Pernambuco.....	162 "	— "	— "	160 "
Ceará.....	1156 "	1105 "	804 "	954 "
Maniçoba.....	122 "	31 "	2 "	2 "
Assaree.....	495 "	494 "	389 "	329 "
Mollendo.....	6 "	14 "	118 "	27 "

London.

JACKSON & TILL, under date of August 1, report stocks:

	1901.	1900.	1899.
LONDON { Pará sorts..... tons	142	140	81
{ Borneo.....	63	31	47
{ Assam and Rangoon.....	522	486	370
{ Other sorts.....	727	657	498
LIVERPOOL { Pará.....	932	1489	563
{ Other sorts.....	1285	1499	717
Total, United Kingdom.....	2944	3645	1878
Total, July 1.....	3128	3653	2247
Total, June 1.....	3502	3624	2510
Total, May 1.....	3397	3952	2129

PRICES PAID DURING JULY.

	1901.	1900.	1899.
Pará fine.	3/6 @ 3/9	3/9½ @ 4/-	4/1 @ 4/3
Negroheads, Islands. . . .	1/10½ @ 2/1	2/0¾ @ 2/1½	.....
Do scrappy.....	2/6½ @ 2/7½	2/10 @ 2/10½	3/2½ @ 3/3
Bolivian.....	3/8 @ 3/9	@ 4/-	4/3 @ 4/3½

FOR SALE.

FACTORY.—Fully equipped Rubber Factory, including full line of machinery, with molds and valuable patents, etc. Capacity, \$150,000 a year; well established trade; only reason for selling, must give up business on account of health. Address RUBBER FACTORY, care of THE INDIA RUBBER WORLD. [60]

PRESS.—For sale at a low price, small Vulcanizing Press in AI condition; Plate 15"x12"; Opening 2"; Weight 550 pounds. THE INCANDESCENT ELECTRIC LIGHT MANIPULATOR Co., No. 116 Bedford street, Boston. [68]

SEWING MACHINES.—200 Wheeler & Wilson and Singer sewing machines, 10 Two-Needle machines, 1 Baring machine, 4 or 5 Button Sewing machines, 3 Button-hole and a Cording and Braiding machine. Address M. C. C., care of THE INDIA RUBBER WORLD. [63]

BUSINESS OPPORTUNITY.

MECHANICAL AND CIVIL ENGINEER, well known in Germany, Austria, and Russia, desires to act as permanent European representative for a line of Belting and Packing, especially high grade leather. Correspondence solicited. ENGINEER, P. O. Box 718, New York. [64]

Lisbon.

MARTIN WEINSTEIN & Co. favor THE INDIA RUBBER WORLD with this statement of the arrivals at Lisbon from Portuguese Africa for three fiscal years, ending June 30, in metric tons:

	1898-99.	1899-1900.	1900-01.
Benguella sorts.....	2100	1893	1026
Loanda.....	1002	703	733
Thimbles.....	170	293	178
Total.....	3272	2889	1937

They suggest that the falling off in the output from this quarter is due to the wasteful practices of the natives in collecting rubber.

Rubber Exports from Benguella.

CUSTOM house figures—fiscal years ended June 30—pounds:

1893-94.....	2,885,300	1897-98.....	4,625,394
1894-95.....	2,572,020	1898-99.....	4,568,032
1895-96.....	3,345,540	1899-1900.....	3,835,018
1896-97.....	3,354,340	1900-01.....	2,212,360

Mangabeira Rubber.

EXPORTS during April from Santos, Brazil, to Hamburg were as follows:

By Otto Schlodtmann.....	kilos	900
By Theodor Wille & Co.....		2588
By Otto Schloenbach.....		552
		3040

Exports during May amounted to:

By Otto Schlodtmann.....	kilos	2300
By Z Bilow & Co.....		300
By Theodor Wille & Co.....		1814
		4414

We Are Now Ready

to submit samples and make prices on Tires, Matting, Shoe Soles, Heels, Horseshoes and other Rubber Goods. : : : :

THE TUSCARORA RUBBER CO., Beach City, Ohio.

Mention *The India Rubber World* when you write.

POSITIONS WANTED.

HOSE MAKER.—Position by expert hose maker, who has had several years' experience as foreman of hose room, can furnish first class compounds; not a drinking man. Address, M. J., care of THE INDIA RUBBER WORLD. [77]

SALESMAN.—Rubber salesman who has had a thorough experience with one of the leading manufacturers, is open for engagement. Thoroughly familiar with the tire business; age 27. Address X., care of THE INDIA RUBBER WORLD. [78]

RUBBER SUBSTITUTE.

FOR SALE, the American patent of a new substitute (floating, white), superior to the best on the market, and already appreciated in Europe. Enormous profit for the manufacturer. Address SUBSTITUTE, care of THE INDIA RUBBER WORLD. [38]

TO EUROPEAN RUBBER MANUFACTURERS.

THE advertiser controls a full and competent staff of workers in the manufacture of high grade rubber shoes. This staff includes superintendent, assistant superintendent, and foremen of various departments, competent to teach all parts of modern rubber shoe manufacturing, prepared to go to any part of Europe, and if need be to build and equip a modern plant. Address, PROGRESS, care of THE INDIA RUBBER WORLD. [56]

RUBBER PLANTING.

GOING Mexican Plantation Co. has good salaried position for competent man able to manage office, and take "ground floor" interest. No delay; quick returns. Address, Room 419, Rialto building, Chicago, Illinois. [76]

Antwerp.

ANTWERP RUBBER STATISTICS FOR JULY.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stock, June 30. Kilos	954,579	726,376	503,997	125,665	168,179
Arrivals in July....	470,662	657,707	247,314	248,156	121,395
Congo sorts.....	458,423	632,149	208,702	209,043	109,964
Other sorts.....	12,239	25,618	38,612	39,113	11,431
Aggregating....	1,425,241	1,384,143	751,311	373,821	289,574
Sales in July.....	384,800	250,441	406,106	117,558	167,641
Stock, July 31.....	1,040,441	1,133,702	345,205	256,263	121,933
Arrivals since Jan. 1	3,552,054	3,669,230	2,096,266	1,114,211	870,637
Congo sorts.....	3,243,557	3,121,175	1,813,808	954,827	796,022
Other sorts.....	308,497	548,055	282,458	159,384	74,615
Sales since Jan. 1..	3,125,652	2,827,519	2,014,401	952,411	887,973

ARRIVALS AT ANTWERP.

AUGUST 10.—By the *Albertville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo)....kilos	150,000
Bunge & Co. (Plantations Lacourt).....	4,600
Comptoir Commercial Congolais.....	27,000
Ch. Dethier (Société La Loanjé).....	950
M. S. Cols (Central Africaine).....	8,000
M. S. Cols (Produits Vegetaux du Kassai).....	14,000
M. S. Cols (Société Lubefu).....	9,000
Crédit Commercial Congolais (La Lulonga).....	3,100
Société Coloniale Anversoise (Belge du Haut Congo).....	39,000
Soc. Coloniale Anversoise (Cie. des Mag. Généraux).....	2,250
Comptoirs Congolais Velde.....	2,000
Société pour Commerce Colonial (Est Kwango).....	8,400
Cie. Commerciale des Colonies (La Kassaienne).....	1,900
Trafic Congolais.....	1,200
Comité Spécial Katanga.....	6,800
Total	278,200

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The improved condition, generally, has imparted to the Hamburg rubber market a certain feeling of confidence; this has been accelerated by the small receipts of Pará sorts. The transactions have been of minor importance, the middle sorts being the only exception. Of these, Africans—Thimbles (first and second), Benguela and Loanda Niggers, Massais, Sierra Leones and Batangas—have held the preference. Of the West India and Central American sorts, Equador scraps and Guatemala and Mexican slabs received the most attention, but prices remained nominally without change. Mangabeira and Borneo were not at all considered. The transactions included:

PARA RUBBER VIA EUROPE.

	POUNDS.
JULY 29.—By the <i>Etruria</i> =Liverpool:	
George A. Alden & Co. (Caucho).....	15,000
AUG. 3.—By the <i>Campania</i> =Liverpool:	
Robinson & Tallman (Coarse).....	11,500
A. T. Morse & Co. (Coarse).....	1,000
AUG. 5.—By <i>La Normandie</i> =Havre:	
A. T. Morse & Co. (Caucho).....	25,000
AUG. 17.—By the <i>Lucania</i> =Liverpool:	
Robinson & Tallman (Fine).....	2,000
AUG. 22.—By the <i>Teutonie</i> =Liverpool:	
A. T. Morse & Co. (Coarse).....	7,000
AUG. 23.—By the <i>Patricia</i> =Hamburg:	
A. T. Morse & Co. (Caucho).....	15,000

OTHER IMPORTS AT NEW YORK.

	POUNDS.
JULY 26.—By the <i>Pennsylvania R. R.</i> =Mexico:	
G. Amsinck & Co.....	1,500
L. N. Chemedlin & Co.....	2,000
G. Amsinck & Co.....	500
JULY 27.—By the <i>Esperanza</i> =Mexico:	
E. Steiger & Co.....	5,000
H. Marquardt & Co.....	1,000
F. Probst & Co.....	500

JULY 29.—By the *Prins Willem II*=Trinidad:

Thebaud Bros., (Angostura Fine)....	23,300
Thebaud Bros., (Angostura Coarse).....	17,000
Total	40,300
JULY 29.—By the <i>Paraense</i> =Maranham:	
G. Amsinck & Co.....	4,500
Hagemeyer & Brunn.....	300
W. H. Crossman & Bros.....	100
Total	4,900
JULY 29.—By the <i>Alleghany</i> =Greytown:	
A. P. Strout.....	5,000
Andreas & Co.....	2,500
G. Amsinck & Co.....	1,200
Elmenhorst & Co.....	300
Jimenez & Escobar.....	6,000
Punderford & Co.....	2,000
D. A. De Lima & Co.....	1,500
Total	18,500
JULY 29.—By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.....	4,000
JULY 30.—By the <i>Advance</i> =Colon:	
Isaac Brandon & Bros.....	3,000
Crude Rubber Co.....	2,300
D. N. Carrington.....	2,000
Kunhardt & Co.....	900
FBnt, Eddy & Co.....	700
Hirzel, Feltman & Co.....	400
W. L. Rathbun & Co.....	300
W. R. Grace & Co.....	300
Lawrence Johnson & Co.....	300
Total	10,200
AUG. 5.—By the <i>Altai</i> =Savanilla:	
Kunhardt & Co.....	1,600
S. Samper & Co.....	1,200
G. Amsinck & Co.....	800
Jimenez & Escobar.....	200
Lawrence Johnson & Co.....	700
Total	4,500

PRICE IN MARKS PER KILOGRAM.

Fine Bolivian.....	8.20@8.25	Sierra Leone niggers, second.....	4.25
Fine Mollendo.....	7.90	Congo Thimbles, black.....	5.10@5.15
Mozambique balls, red, finest.....	7.70@7.75	Kassai, prime, red.....	6.
Mozambique balls, red, fine.....	7.50@7.60	Batanga balls, prime.....	4.05@4.10
Mozambique balls, red and black.....	7.	Kamerun balls, prime.....	3.85@4.
Massai Niggers, red, prime.....	5.75 5.80	Equador scraps, fine.....	5.35
Sierra Leone niggers, prime.....	5.50	Colombia scraps, fine.....	5.35@5.40
Hamburg, August 14, 1901.		Guatemala Slabs.....	3.90
		Mexican Slabs.....	3.80@3.85
		Tonquin Sausages, red.....	4.85@4.90

UNDER date of July 1 it is announced that under the style Hecht & Co., G. m. b. H., has been opened in Hamburg an import and export business in raw materials, and especially crude India-rubber. The members of the firm are Hecht, Freres & Co., of Paris; Hecht, Levis & Kahn, London and Liverpool; and Ernst Hecht, Paris. As managers have been appointed Mr. Felix Dorn, of Liverpool, and Mr. Jacques Ullman, of Hamburg, who are authorized to sign for the firm individually. [G. m. b. H. signifies *Gesellschaft mit beschränkter Haftung*, or limited liability company.]

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
July 27.—By the steamer <i>Sobralense</i> , from Manáos and Pará:					
New York Commercial Co.....	15,100	8,800	28,100	2,600=	54,600
Reimers & Co.....	12,100	3,200	33,300	.....=	48,600
A. T. Morse & Co.....	19,200	3,100	10,800	2,400=	35,500
Crude Rubber Co.....	25,700	2,900	4,700	.....=	33,300
Smith & Schipper.....	9,400	1,000	1,400	1,000=	12,800
G. Amsinck & Co.....	.....	.....	1,200	.....=	1,200
Total	81,500	19,000	79,500	6,000=	186,000
August 5.—By the steamer <i>Benedict</i> , from Manáos and Pará:					
Crude Rubber Co.....	19,700	4,300	6,100	.....=	30,100
A. T. Morse & Co.....	3,000	700	11,600	3,700=	19,000
New York Commercial Co.....	3,000	1,700	7,000	.....=	11,700
G. Amsinck & Co.....	6,100	.....	700	.....=	6,800
Total	31,800	6,700	25,400	3,700=	67,600
August 15.—By the steamer <i>Cearense</i> , from Manáos and Pará:					
New York Commercial Co.....	100,300	4,700	27,000	8,500=	149,500
Crude Rubber Co.....	48,900	4,700	8,000	900=	62,500
Reimers & Co.....	72,800	9,300	26,600	2,600=	111,300
A. T. Morse & Co.....	18,000	4,400	61,200	7,400=	91,000
Czarnikow, McDougal Co.....	8,000	4,400	.....	.....=	12,400
Total	257,000	27,500	122,800	19,400=	426,700

[NOTE.—The steamer *Cametense*, from Pará, with 250 tons of rubber, was due at New York, August 28.]

AUG. 3.—By the *Campania*=Liverpool:

Robinson & Tallman.....	4,500
AUG. 5.—By the <i>Grenada</i> =Trinidad:	
Kunhardt & Co.....	13,500
AUG. 6.—By the <i>Alliance</i> =Colon:	
G. Amsinck & Co.....	5,000
Flint, Eddy & Co.....	3,000
Gillespie Bros.....	1,700
Roldan & Van Sickle.....	1,400
A. Santos & Co.....	1,400
Dumarest & Co.....	700
H. Marquardt & Co.....	300
Frank Brothers.....	200
Total	13,700
AUG. 7.—By the <i>Pennsylvania R. R.</i> =Mexico:	
H. Marquardt & Co.....	3,500
Graham, Hinchley & Co.....	500
G. Amsinck & Co.....	1,500
Kunhardt & Co.....	1,500
Silva Bussenius & Co.....	1,000
L. Johnson & Co.....	600
Jimenez & Escobar.....	600
Joseph Hecht & Sons.....	200
J. B. Sageman.....	300
Total	9,800
AUG. 9.—By the <i>Monterey</i> =Mexico:	
R. L. Johnstone.....	3,500
Thebaud Brothers.....	1,500
E. Steiger & Co.....	500
E. N. Tibbals.....	300
For Europe.....	4,000
Total	9,800
AUG. 12.—By the <i>Alene</i> =Greytown:	
Maltus & Ware.....	6,000
A. P. Strout.....	3,000
G. Amsinck & Co.....	2,000

Graham, Hinekey & Co.	300	
D. A. De Lima & Co.	1,500	
Roldau & Van Sickle	500	
Kunhardt & Co.	300	13,600
AUG. 14.—By the <i>El Dorado</i> =New Orleans :		
A. N. Rotholz	17,000	
A. T. Morse & Co.	12,000	
Eggers & Heinlein	3,000	
For Europe	2,000	34,000
AUG. 13.—By the <i>Finance</i> =Colon :		
G. Amsinek & Co.	6,700	
Flint, Eddy & Co.	4,900	
W. R. Grace & Co.	3,900	
A. M. Capen Sons	3,700	
Meeke & Co.	1,100	
Shva Busseilus & Co	1,000	
Joseph Hecht & Son	600	
A. P. Strout	300	22,200
AUG. 17.—By the <i>Lucania</i> =Liverpool :		
Robinson & Tallman	5,500	
Livesey & Co.	2,500	8,000
AUG. 16.—By the <i>Havana</i> =Mexico :		
Fred. Probst & Co.	1,000	
H. Marquardt & Co.	1,000	
Thebaud Brothers.	700	
H. W. Peabody & Co	300	3,000
AUG. 19.—By the <i>Carib II</i> =Truxillo, etc. :		
Eggers & Heinlein.	19,000	
H. W. Peabody & Co.	500	
K. Mandell & Co.	300	
A. S. Lascellas & Co	300	
For Liverpool	500	20,600
AUG. 20.—By the <i>Orizaba</i> =Colon :		
Hirzel, Feltman & Co.	8,900	
Flint, Eddy & Co.	4,000	
G. Amstuck & Co.	3,400	
Frame, Alston & Co.	1,200	
Dumarest & Co.	800	
W. Lanza & Co.	900	
Smithers & Co.	800	20,100
AUG. 20.—By the <i>Athos</i> =Savanna :		
Roldan & Van Sickle.	11,000	
Jimenez & Escobar.	3,500	
D. A. DeLima & Co.	2,000	
Kunhardt & Co.	1,500	
H. W. Peabody & Co	500	
Sussdorf, Zaldo & Co.	300	18,800

AFRICANS.

AUG. 25.—By the <i>Teutonic</i> =Liverpool :		
George A. Alden & Co.	11,500	
Crude Rubber Co.	11,000	22,500
AUG. 27.—By the <i>Bulgaria</i> =Hamburg :		
A. T. Morse & Co.	13,500	
Robinson & Tallman	2,500	
William Wright & Co.	16,000	32,000
AUG. 29.—By the <i>Etruria</i> =Liverpool :		
George A. Alden & Co.	18,500	
Crude Rubber Co.	6,000	
Reimers & Co.	28,500	49,000
AUG. 30.—By the <i>Vaderland</i> =Antwerp :		
George A. Alden & Co.	85,000	
Crude Rubber Co.	84,000	
Reimers & Co.	14,000	183,000

AUG. 2.—By the <i>Germanie</i> =Liverpool :		
George A. Alden & Co.	2,500	
Livesey & Co.	2,500	5,000
AUG. 3.—By the <i>Campania</i> =Liverpool :		
Robinson & Tallman	19,000	
George A. Alden & Co.	6,500	
Crude Rubber Co.	5,500	31,000
AUG. 7.—By the <i>Majestic</i> =Liverpool :		
Crude Rubber Co.	18,500	
George A. Alden & Co	10,000	28,500
AUG. 12.—By the <i>Tampican</i> =Liverpool :		
A. T. Morse & Co.		45,000
AUG. 12.—By the <i>Umbria</i> =Liverpool :		
George A. Alden & Co.	5,000	
Crude Rubber Co. (Caucho) ..	4,500	
Reimers & Co.	4,500	
Livesey & Co.	2,500	16,500
AUG. 12.—By the <i>Zeeland</i> =Antwerp :		
George A. Alden & Co.	33,500	
Crude Rubber Co.	28,000	
Reimers & Co.	16,500	78,000
AUG. 17.—By the <i>Phanicia</i> =Hamburg :		
William Wright & Co.	12,000	
George A. Alden & Co.	7,000	
Livesey & Co.	3,500	22,500
AUG. 17.—By the <i>Lucania</i> =Liverpool :		
George A. Alden & Co.	20,000	
Livesey & Co.	18,000	
Robinson & Tallman	12,500	50,500
AUG. 19.—By the <i>Georgian</i> =Liverpool :		
George A. Alden & Co.	28,000	
Crude Rubber Co.	28,000	56,000
AUG. 23.—By the <i>Patricia</i> =Hamburg :		
A. T. Morse & Co.	25,000	
Reimers & Co.	28,500	
George A. Alden & Co	8,000	
Livesey & Co.	6,500	68,000
AUG. 24.—By the <i>St. Paul</i> =Southampton :		
Reimers & Co.		8,000

EAST INDIAN.

AUG. 29.—By the <i>Afridi</i> =Singapore :		
Reimers & Co.	11,500	
R. Brauss & Co.	23,000	34,500
AUG. 19.—By the <i>Hillgen</i> =Singapore :		
D. P. Cruikshank		13,000
AUG. 21.—By the <i>St. Paul</i> =Southampton :		
Reimers & Co.		5,500
PONTIANAK.		
AUG. 29.—By the <i>Afridi</i> =Singapore :		
Reimers & Co.	80,000	
R. Brauss & Co.	62,000	142,000
AUG. 5.—By the <i>Fernand</i> =Singapore :		
Reimers & Co.	105,000	
George A. Alden & Co.	35,000	140,000
AUG. 19.—By the <i>Hillgen</i> =Singapore :		
George A. Alden & Co.	200,000	
Reimers & Co.	200,000	
R. Brauss & Co.	120,000	520,000

GUTTA-PERCHA AND BALATA.		
POUNDS.		
AUG. 5.—By the <i>Marquette</i> =London :		
Spaulding Manufacturing Co		6,500
AUG. 5.—By the <i>Fernand</i> =Singapore :		
Reimers & Co.		2,500
AUG. 17.—By the <i>Phanicia</i> =Hamburg :		
R. Soltau & Co.		7,000
BALATA.		
JULY 27.—By the <i>Sobralense</i> =Barbados :		
Middleton & Co.		1,000
JULY 29.—By the <i>Prins Willem II.</i> =Trinidad :		
George A. Alden & Co.		1,000

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—JULY.		
Imports :		
India-rubber.	2,923,581	\$1,450,115
Gutta-percha.	51,983	21,120
Gutta-jelatang (Pontianak) ..	261,871	16,196
Total.	3,237,438	\$1,487,431
Exports :		
India-rubber.	327,012	\$234,392
Reclaimed rubber.	122,508	17,562
Rubber Scrap Imported.	2,049,166	\$129,571

BOSTON ARRIVALS.

AUG. 1.—By the <i>Lancastrian</i> =Liverpool :		
Crude Rubber Co.—African.		28,237
AUG. 1.—By the <i>Commonwealth</i> =Liverpool :		
Livesey & Co.—African.		4,628
AUG. 8.—By the <i>Michigan</i> =Liverpool :		
George A. Alden & Co.—African.	6,887	
Livesey & Co.—African.	11,447	18,334
AUG. 9.—By the <i>Cestrian</i> =Liverpool :		
Crude Rubber Co.—African.	4,563	
George A. Alden & Co.—African.	7,103	11,666
AUG. 12.—By the <i>Sarantia</i> =Liverpool :		
Livesey & Co.—African.		9,598
AUG. 15.—By the <i>Winifredian</i> =Liverpool :		
George A. Alden & Co.—African.		5,482
AUG. 23.—By the <i>Sagamore</i> =Liverpool :		
George A. Alden & Co.—African.		12,349
AUG. 23.—By the <i>Ullonta</i> =Liverpool :		
George A. Alden & Co.—African.		55,257
Total.		145,551

[Value, \$68,881.]

GUTTA-PERCHA.

AUG. 9.—By the <i>Caledonian</i> =London :		
George A. Alden & Co.		2,240
AUG. 24.—By the <i>Peruvian</i> =Glasgow :		
George A. Alden & Co.		1,003
Total.		3,243

JULY EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Chok, Prisse & Co.	—	—	15,300	—	15,300	117,064	16,820	48,005	2,705	184,594	199,894
Frank da Costa & Co.	4,628	534	10,744	—	15,906	90,511	11,231	85,847	1,500	189,089	204,995
Adelbert H. Alden.	9,360	900	16,000	414	26,674	80,690	19,960	32,100	—	132,750	159,424
Denis Cronan & Co.	—	—	—	—	—	30,260	5,950	24,320	—	60,530	60,530
Neale & Staats.	—	—	—	—	—	21,206	2,133	10,159	—	33,498	33,498
Rudolf Zietz.	—	—	—	—	—	16,607	4,897	8,109	1,042	30,665	30,665
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	5,780	2,929	208	—	8,917	8,917
The Sears Pará Rubber Co.	1,467	317	239	—	2,023	—	—	—	—	—	2,023
Kanthack & Co.	—	—	—	—	—	513	45	1,274	—	1,832	1,832
Direct from Iquitos.	—	—	—	—	—	6,083	1,696	26,060	105,782	139,621	139,621
Direct from Manaos.	38,410	10,460	9,960	4,420	63,250	106,482	19,474	22,522	27,246	175,724	238,974
Total for July.	53,865	12,211	52,243	4,384	123,153	475,196	85,135	258,604	138,275	957,210	1,080,363
Jan.—June.	4,868,612	1,131,774	2,401,598	1,111,084	9,513,068	3,353,916	732,072	1,408,662	1,980,886	7,475,536	16,988,004
Total for 1901.	4,922,477	1,143,985	2,453,841	1,115,918	9,636,221	3,829,112	817,207	1,667,266	2,119,161	8,432,746	18,068,967
Same time 1900.	2,782,824	495,804	1,705,441	500,060	5,484,129	3,202,245	661,447	1,297,073	539,447	5,700,212	11,184,341

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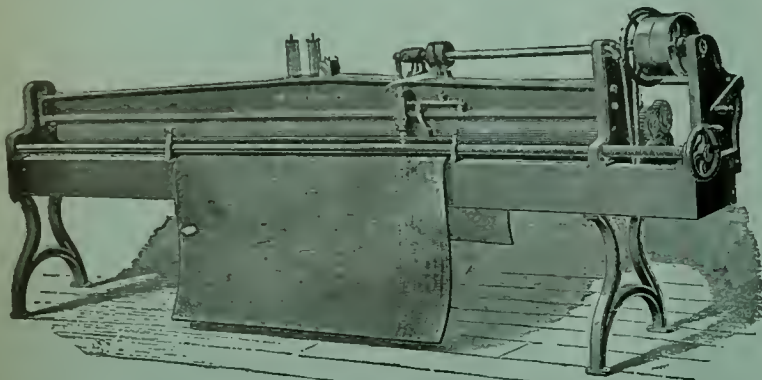
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THE TRAGEDY AT BUFFALO.

THE recent tragic death at Buffalo of the President of the United States, William McKinley, led to universal and merited regret, at the cutting down in the prime of life of a man so admirable in his personal qualities and relations, and the loss to the country of a chief executive so honorable and capable. But in view of the many notable tributes to these characteristics that have appeared, not only in America, but wherever in foreign lands the conditions were known and appreciated, a trade journal, such as THE INDIA RUBBER WORLD, may confine its comments to the effect upon business conditions of the tragedy. Rather, it may be said, no effect has been observable, beyond the general cessation of business while the whole people paid tribute to the dead.

There have been times when such an occurrence might have precipitated a panic, and seriously upset that general confidence which is the basis of trade. The fact that nothing of the kind has now occurred is the strongest possible evidence of the prosperity of the country. In so-called panics there is, of course, no change in real values of what constitutes wealth; but when prices are inflated, and men measure their possessions by fictitious values, a mere trifle may start a puncturing of bubbles and end in unsettling all bases of credit and giving a check to legitimate enterprise. To-day, business in the United States shows no change from the conditions on the day before the assassination. There was no opportunity for precipitating a crash in the stock markets, such as some speculative interests always welcome, in the hope of being able to profit from the collapse of unstable fortunes. The one change noticeable is the filling of the vacancy at the head of the nation by the man chosen in advance for such an emergency, and in whom the public apparently have full confidence. Here is political as well as business stability—a combination upon which the American people may well be congratulated.

The recognition which the death of Mr. McKinley has received abroad—exceeding that accorded to any purely domestic event in this country at any past time—is most significant. The meaning is that the United States to-day presents a larger figure to the eyes of the world than ever before; that the industrial and commercial strength of the nation, of which our people long had been becoming conscious, is now everywhere recognized. This is, in a manner, another evidence of the soundness of business conditions here. It was the late President's good fortune that this widening sense of the importance of the country developed in a striking way during his administration, and history doubtless will mete out to him no small credit for its development.

THE EXHAUSTION OF RUBBER.

THOSE of our readers who have kept up with THE INDIA RUBBER WORLD from the beginning may recall that in not a few issues have appeared articles writ-

ten to combat the idea that an exhaustion of supplies was in prospect. Some of these have been intended to discourage movements to invest in rubber exploitation schemes having an unsound basis, and which appealed for support on the idea that all natural rubber resources were near an end. And there have been articles meant to allay any present fears on the part of manufacturers that rubber was about to be "cornered," by pointing out how wonderfully wide is the natural rubber zone. Again, we have given prominence to discoveries of hitherto unknown rubber forests, as indicating a prospect of lower rubber prices, at times when manufacturers were fearful of a rise.

In a word, our idea has been to discourage any alarmist ideas with regard to the supplies of rubber, at least within our own generation. We may mention, by the way, that since THE INDIA RUBBER WORLD was first issued, the Congo rubber supply has been developed, and the large output from the Gold Coast, Lagos, and other African districts, besides the growth of the Caucho supply in South America, and the discovery of rubber in immense quantities in Bolivia. But the rate at which many of these sources of supply have begun already to diminish, and fuller information regarding the wasteful practices indulged by rubber gatherers, and the inability of governments to restrain them, make it proper, in some measure, to take fresh bearings on the subject.

Not that we are ready yet to take any alarmist position. There still appears to be enough rubber in sight for all purposes for many years to come. With better transportation facilities and better organized systems of operation, the more remote districts become gradually, in effect, less remote, and rubber now reaches New York and Liverpool from points whence it could not have been brought, twenty years ago, except at prohibitive prices, even if the existence of the rubber had been known. There is yet no need for any rubber manufacturer to cast about for a new occupation, lest he should suddenly find himself without rubber for carrying on his business. And we fancy that no one in the trade will lose sleep over what the next generation will do for rubber.

At the same time, the rubber is diminishing. An impressive object lesson is given on another page of this paper, in the form of a diagram illustrating the rise and decline of rubber production in Colombia, and a similar diagram might be prepared for several other countries. In time, under existing conditions, one could be prepared for every rubber producing country, excepting, perhaps, the Pará rubber districts. The reason is further illustrated by a cut, made from a photograph of a felled tree. It will not yield gum a second time.

We believe that disaster to the industry will be avoided, ultimately, by the cultivation of rubber. Not that every scheme proposed in this field should be encouraged. Many of them should be vigorously discouraged, just as has been true in respect to orange growing, gold mining, and other interests requiring large amounts of capital for their development, giving incapable or dishonest promoters an opportunity to profit at the expense of uninformed investors.

In THE INDIA RUBBER WORLD of April 15, 1890, an editorial article on "The Cultivation of Rubber" expressed some views to which we still hold, after nearly twelve years, for which reason these extracts from it are presented:

Great as the use of rubber has become, it is little more than a beginning. Every year the number of consumers of rubber increases, while busy inventors continue to find new uses for it. But the supply of rubber does not grow in like degree. . . . The culture of rubber will soon be a live question. Plantations of rubber near shipping ports and under intelligent supervision are needed. . . . The great trouble is that the time required for the first returns from the rubber tree is greater than most farmers would find practicable. The work would have to be done, therefore, by organized capital. . . . We call attention to this subject as one of interest, not only to the rubber trade, but possibly to some American capitalist who may see the importance of being a pioneer in the business of supplying the world with cultivated rubber.

WHY NOT ASSIST NATURE?

THE time was when nature did its own seed sowing, and did it fairly well. It was not, however, until man became nature's assistant that the necessities and luxuries that come from the vegetable world were planted and harvested with any degree of system or success. We are apt to forget that the commonest food products once grew wild, but when the need arose, man stepped in, and not only increased the product a thousand fold, but in almost every instance brought fruitage up to a far higher plane of production and protection. No doubt the time was, when the conservative capitalist of the stone age predicted the utter failure of the enthusiast who planned to cultivate wheat. His mantle seems to-day to have fallen upon the persistent pessimist who is equally certain that India-rubber cannot be cultivated. There is little doubt, however, that some day cultivated rubber will displace the wild.

CRUDE RUBBER STEALING.—In another column appears a note that should interest every rubber importer and manufacturer in the world. It relates to the stealing of a large amount of rubber from an importer and the sale of the same in small quantities to the very house which owned the goods. It is freely granted, that it is very rare that so large an amount is stolen. It is also well known, that small amounts of rubber are often stolen and sold. Nor is this remarkable. India-rubber is an exceedingly valuable and portable product, and will always be a temptation to the dishonest. It should, therefore, be guarded as carefully as the mint guards its gold, and any seller should be obliged to show a clear title to its possession.

RUBBER IMPORTS AT ANTWERP during the past month included one cargo by steamer from the Congo of 1,783,540 pounds. The receipts of Congo sorts had previously amounted, for the year, to 7,725,291 pounds. This volume of trade, built up only in a few years, is a most notable development in rubber, and particularly the large single shipment here recorded. If this sort of thing can be kept up, the annexation of the Congo Free State will prove a good thing for Belgium, but there is no assurance that a decline in the Congo rubber production is not near at hand.

RUBBER PLANTING IN COSTA RICA.

By Th. F. Koschny, (San Carlos.)

TO THE EDITOR OF THE INDIA RUBBER WORLD: In respect to tenacity of life and the quantity of its yield, the *Castilloa elastica* has no equal among other rubber producing plants. Moreover, when the tensile quality of its product is taken into account, and the low degree of shrinkage, its value, as compared with Pará rubber, is much higher than is generally supposed.

The *Castilloa* requires a warm and moist climate. A temperature never less than 60° F. and an elevation not over 1200 feet above the sea are desirable. There are exceptionally well protected places where it will thrive at an elevation of 1500 feet. Native trees are found most abundantly, and in the best state of development, at between 500 and 1000 feet. Near the sea, where the air is impregnated with salt, the trees will not thrive. The annual rainfall should not be less than 80 inches; the more the better. In the valley of San Carlos, in Costa Rica, I found the greatest abundance of native rubber when I traveled extensively in Central America in 1870; this has an annual rainfall of 160 inches. Not only is plenty of rain desirable, but it should be well distributed throughout the year. San Carlos, for instance, has, in the two driest months, March and April, 2 and 4 inches of rainfall, respectively. The Pacific slope of Central America, with its decidedly dry season of six months, is, save in a few favored localities, not adapted for rubber planting. In its native state the *Castilloa* favors a clay soil and this soil predominates on the Atlantic slope. I have never seen well developed rubber trees on a sandy soil.

The *Castilloa elastica* seeds ripen from March to June. The fruit resembles a pie 3 or 4 inches in diameter, with an outer green plate, and consists of a very soft red pulp, in which the seed is imbedded. Each fruit contains from 8 to 15 seeds the size of a pea. At first they will weigh 1000 to the pound; by the third day they weigh 1500 to the pound. They must be kept moist until planted. They may be planted in nursery beds, or where the trees are intended to stand. The price in San Carlos is \$2, gold, for 1000 seeds.

Lands for planting should be inclined, to allow for drainage. Swamps or very level lands, on which the water stands, are unsuitable. Hillside too steep for other cultivation, might be utilized for rubber. The *Castilloa elastica* is a shade tree, and any other culture than that which is suited to this characteristic will prove a failure. It will grow in the open until about the sixth year, when the top begins to dry off and shoots start up from the lower stump to protect the trunk. It is the stem of the tree that needs protection from the sun's rays. Trees not protected will always perish from the first attempt to extract rubber. I have lost thousands of trees at the first tapping for this reason. Four years ago I planted a few acres in the forest, cutting out the larger trees, where the shade was densest, and setting out the rubber in rows. The young rubber trees are now 25 feet high and 5 inches in diameter three feet above the ground. While the rubber tree is so delicate in the open field, it is quite the reverse in the forest. I have trees planted in the forest shade that are covered with scars from tapping, but are yet vigorous enough to yield seeds. The *Castilloa* is seldom found wild in dense forests of high trees, but in places where high trees are interspersed with lower ones, or with high brush, in such a way that during some part of the day the sun can reach the rubber foliage. These same obser-

ventions, by the way, were made by the German botanist, Rudolf Schlechter, with the *Kickxia Africana*, in the colony of Lagos, West Africa.

In planting rubber by my method, rows or paths are cut in the forest, two yards wide and three yards from center to center. In these rows the seeds are planted, without preparation of the soil, about six yards distant. At the selected spots two small holes are made, about six inches apart, and in each one rubber seed deposited and covered with an inch of soil. In case both seeds grow, one plant may be set out elsewhere. If the ground should be cleaned thoroughly, lizards would be more apt to cut off the green shoots as soon as they appeared. After they are eight inches high, the ground may be cleaned around the plants. The rubber grows better when planted in its permanent location, for transplanting means a check to the growth for a month or two. The seedlings should be watered in dry weather. But if nursery seedlings are used, care should be taken, in transplanting, that the tap root of the plant goes down in the ground, instead of being doubled up. The spot where each seed or seedling is planted should be marked with a stake a yard and a half high. As soon as the plants are up, and any necessary replanting has been done, the work of thinning out the forest may be taken up, with a view to leaving only so much shade finally that, during some part of every day, the sun may reach every rubber plant.

The *Castilloa* may also be planted in open ground, but without cutting down weeds or young trees sprouting in the spaces between the rubber plants. These, in the tropics, in a few years form a forest growth sufficient to shade the rubber; if too dense, it must of course be thinned out. This method of planting rubber has an advantage in that it forms stronger plants at first, but it is more expensive in the end, because for the first two years six heavy cleanings per year are necessary, and later the free space must be thinned out every year. With forest planting, however, only three slight cleanings are needed the first year—cutting the sprouts of the underbrush and cleaning the ground about the rubber plants in spaces one yard in diameter, such as one man can accomplish for one acre per day. For the next three years only two annual cleanings are needed, and for the next three years, only one annually. In the eighth year the *Castilloa* becomes productive, after which the only work in cleaning is to tear the climbing vines away from the trees to allow the rubber to be extracted.

The average yield of rubber per tree in the eighth year should not exceed 1 pound of dry rubber per tree, to avoid injury to the tree. The development of all trees in a large plantation will not be the same, and some can stand heavier tapping than others. In the tenth year the yield should be 1¼ pounds; in the twelfth year, 1½ pound, and after the fifteenth year, 2 pounds per year. This is not a calculation of what the trees will yield, but the limit of annual yield without injury to the health of the tree.

As for expense of planting in Costa Rica, an estimate may be based on 100 hectares (=247 acres). The cost for eight years will be, allowing 50 per cent. for extras over the figures that my own experiences point to, for 25,600 trees, \$5300, gold. This includes the cost of the first year's tapping. The yield this year, at 1 pound per tree, will be 25,600 pounds, worth, at 85 cents per pound, \$21,680, gold.

RUBBER AND THE STATE IN BRAZIL.

THE *Bulletin de la Société d'Etudes Coloniales* (Brussels) recently published the results of an official inquiry made under the direction of the Belgian ministry of foreign affairs as to the official measures taken in Brazil to foster its great rubber industry. It was found that the general government of the republic has passed no laws relating to the industry. It is not regulated at all except so far as the legislatures of the several states have adopted measures. Seventeen of the twenty states produce rubber, the climate being unfavorable to rubber culture only in the three southern states of Rio Grande do Sul, Santa Catharina, and Parana. Most of the small Atlantic coast states in the rubber zone, though producing more or less caoutchouc, have made no attempt, as yet, to conserve their rubber resources or to encourage or regulate its production. These states include Rio de Janeiro, Minas Geraes, Espirito Santo, Parahyba, Rio Grande do Norte, Sergipe, and Ceará. Most of the rubber states make the product contribute to the finances by imposing a tax on rubber exports, but the states above mentioned have not given even this attention to the industry except Minas Geraes, which collects an export duty of 4 per cent. *ad valorem*. In these seven states the first comer may harvest the crop wherever he may find it on the public domain.

On the other hand, the state of Pará, from which by far the largest shipments are made, encourages the planting of caoutchouc by offering a premium of 1,000,000 reis, or over \$500 for every 2000 trees that [are properly planted]. This law, which has been in force only four years, is already stimulating the development of rubber plantations and its wisdom is being conclusively demonstrated. This large state, which embraces all the lower part of the Amazon and some of its mightiest tributaries, will not have to rely, in the coming years, upon supplies that grow wild in the forests; in fact, no source of rubber so freely tapped as that in Pará can be relied upon indefinitely to yield an unfailing supply. The days of exhaustion will come just as they have overtaken the rubber vines of West Africa, which have all been killed for many miles inland from the coast. The only way to supply the future demand will be to increase the quantity, and that can be done only by rubber planting, which, in a few decades, will revolutionize the business. The world now depends almost solely upon the wild sources of supply, but there will be a great deal of plantation rubber in the market before the century now beginning is very far advanced.

The state of São Paulo also offers a handsome premium for the development of rubber plantations; and both these states impose a comparatively heavy tax upon the exports of rubber with the wise intention of devoting a considerable part of the receipts to the conservation and encouragement of the industry. Matto Grosso, under the law of 1898, offers special facilities for the acquirement of a fixed quantity of rubber lands by those who discover them in the vast part of the public domain that is still unexplored. Amazonas and Bahia are not yet offering special inducements for rubber planting, but the land laws, adopted by these states in 1897, facilitate private ownership in rubber forests and this is a long step toward establishing the industry on a stable basis.

All these improvements in the status of the rubber industry of Brazil have been made within the past four years. They encourage the belief that this great source of wealth will come, more and more, to be managed scientifically in the interest of Brazil and of the world and to the great advantage of the investors of capital.

IS THIS WHY RUBBER IS LOWER?

THE Amazon rubber country just now is a fruitful field for news and rumors of all sorts respecting not only the rubber situation, but the condition of general business as well. Here is a sample of unverified "news" which has traveled as far as New York: "The lower prices for rubber which have prevailed for some time past on the Amazon have been due to manipulation by European capitalists. The state of Amazonas (capital, Manáos) is trying to float a loan in Europe. The capitalists with whom they are negotiating are interested in a low scale of prices for rubber, for this reason: The revenue of the state, on which the lenders must depend for their interest, and ultimately for their principal, is derived from export duties—chiefly from rubber exports. In making the loan, the European capitalists will figure upon the rates for rubber prevailing at the time, and it is to their interest to have rubber prices so low that they can hardly fall lower during the life of the loan, or, in other words, so low that the revenue from export duties—a certain percentage on the price of rubber—will not be apt to decline before the loan is paid. The money lenders have played their game by influencing certain European bankers to curtail their accommodations to Manáos rubber houses, and this in turn has made funds scarcer up the Amazon. The point of this is that the handling of rubber is checked by the lack of currency, and this operates also to reduce prices." Clearly the only way in which rubber prices may ever be regulated is by control of the production by large capital, under intelligent supervision.

RAINY DAY SKIRTS AND MACKINTOSHES.

THE New York *Sun* says: "The rainy-day skirt has almost entirely done away with the feminine waterproof or mackintosh cloak which a few years ago occupied a place in every woman's wardrobe. These garments were made up most expensively in silk and rubber-mixed materials, many of them being beautiful in color and finish.

"While they looked extremely pretty on damp days, they were never a healthful garment, for the rubber material excluded the air and made the clothing damp. Then the difficulty of raising the dress skirt was increased and the rubber cloak invariably trailed in the mud and became unsightly.

"Nowadays a woman dressed for a journey in the rain is sensibly clad, from her heavy cork-soled shoes, which have done away with the clumsy and objectionable overshoe, to her neat, tightly fastened hat, made to withstand the elements.

"Many women venture out in these waterproof suits without an umbrella, but the umbrella gives a finish to the trim costume. On rainy days, and even on fine days when these costumes are worn, the hair should be plainly brushed and neatly coiled or braided. An elaborate coiffure or loosely arranged hair is incongruous with these gowns which suggest exercise in the air."

THE RUBBER FACTORY FOR TURKEY.

THE INDIA RUBBER WORLD nous apprend que le gouvernement ottoman vient d'accorder un monopole pour l'installation d'une manufacture à caoutchouc en Turquie. Le monopole en question comporte l'exemption de droits d'entrée pour le matériel et pour la matière première. La compagnie concessionnaire est assurée, déclarée THE INDIA RUBBER WORLD, d'obtenir les commandes de goloques et d'imperméables pour l'armée.—*La Gazette Coloniale* (Brussels).

MR. FLINT ON THE RUBBER COMBINATIONS.

THE testimony of Mr. Charles R. Flint, in relation to trusts and industrial combinations, given some time ago before the United States Industrial Commission, which is conducting a series of inquiries by direction of Congress, appears in full in the latest volume issued by the commission. Mr. Flint, during the two days devoted to his examination, was questioned in regard to the methods of organization and conduct of several large industrial combinations with which he is or has been connected, but he was regarded by the commission particularly as representing the rubber industry, and much of his testimony bears upon the United States Rubber Co. and the Rubber Goods Manufacturing Co. In connection with his statements appear some documents of interest, as representing the work of combining the rubber companies involved, preliminary to the filing of articles of incorporation. Below are given several excerpts from Mr. Flint's testimony, sometimes in his own words, and in other cases in summarized form:

PREFERRED STOCK AND COMMON STOCK.

IN forming the two rubber corporations above mentioned the same plan was observed in the apportionment of the capital stock, as between "preferred" and "common." Account was taken of the appraised value of (1) plant, machinery, tools, and fixtures; (2) merchandise, raw, wrought, and in process; (3) manufactured goods; and (4) receivables guaranteed by the vendors. From the total values were deducted the liabilities, if any, and preferred stock was issued for the net result. In other words, the preferred stock represented tangible assets. In case only a portion of the whole interest in any manufacturing property was acquired, a *pro rata* amount of preferred stock was issued therefor.

"Common stock was issued to represent the value of good will, patents, and trade marks; and patents are of very great value," said Mr. Flint, in referring to the Rubber Goods company. The original memorandum of agreement of the United States Rubber Co. stated: "The common stock shall be issued, among other things, to represent the increased earning capacity by reason of the consolidation of the interests acquired."

The amount of common stock issued by the Rubber Goods company was proportionately larger than in the case of the United States company. Mr. Flint remarked: "In the case of the United States Rubber Co. it was provided that the amount of common stock should be substantially equal to the issue of preferred, but the United States Rubber Co. had comparatively few patents; and while their trade marks are of great value, the trade mark on a shoe is not as valuable as a trade mark on a tire, because you can get home with a leaky shoe, and you can't with a punctured tire."

Referring again to the value of patents, Mr. Flint said: "The Rubber Goods Manufacturing Co. manufactures ten different classes of rubber goods. In some cases, being protected by a monopoly under a government patent, they have 100 per cent. of the business. - - - They have patents in certain kinds of tiling—interlocking tiling—and also on certain kinds of tires. In other lines they manufacture only from 25 to 75 per cent."

The American Chicle Co., which Mr. Flint also helped to organize, was discussed at some length. In that case, the preferred stock was \$3,000,000 and the common stock \$6,000,000. Mr. Flint said: "There was not a formal appraisal, from the fact that the main item of value was the earning capacity.

- - - The preferred stock in round figures was three times the amount of tangible assets. - - - It has been shown that the capitalization of the American Chicle Co. was on a conservative basis from the fact that the company has paid 8 per cent. on its common stock, and the market price of the common stock, which is to a large extent an indication of its character (as in this instance it is not subject to manipulation), is \$80 per share."

Mr. Flint thought that, taking the field of industrial combination as a whole, "there have been many cases of overcapitalization that have been very prejudicial," pointing to "the wisdom of greater care in bringing about these organizations. Speaking generally as regards the capitalization of these industries, it seems to me that care should be taken to protect the senior securities, which are regarded as investment securities. The common stock, though its amount may appear large, is well known as a rule to represent good will. The word 'common' is engraved in big letters across the face of it, and people in general have noticed that it is not as a rule investment security at this time. I have no question but that in time many of these industrial securities—many common stocks to-day might be classed as speculative securities,—will become investment securities, as our railroad shares that were originally issued for good will are to-day. In general I have no doubt that the public have been benefited by these capitalizations. They are, in my judgment, receiving double the income that they would get if these industrial securities had not been created. Formerly the great manufacturing interests were in a few hands, and to day there has been a wide distribution."

ECONOMIES EFFECTED BY INDUSTRIAL COMBINATIONS.

QUESTIONED on this point, Mr. Flint said: "In general, centralized manufacture permits the largest use of special machinery. - - - For example, in the case of the manufacture of rubber goods, an important branch of the business is the production of what is called the reclaimed rubber. Instead of the rubber being reclaimed in each factory or at the principal factories, that business has been centralized in one factory, and the percentage of the cost of reclaimed rubber has thereby been reduced about 20 per cent. "[Mr. Flint was asked whether this applied to both rubber companies, and replied:] "Yes; but to a larger extent to the United States Rubber Co., which has a reclaiming plant at Naugatuck."

Mr. Flint said on another point: "In recent calculations we have found that the percentage saved in the cost of production by running a factory full time instead of half time is from 4 to 8 per cent," and he thought that centralization of industries had led to the more regular running of factories.

Economies had also resulted from making direct sales—direct distribution.

Q. In the case of these companies that you have been speaking of, has there been any material saving by reducing the number of traveling salesmen?—A. Yes.

Q. In which companies?—A. Well, in most cases there has been considerable saving, and in some cases, perhaps they have gone a little too far in that direction. That is, they have undertaken to secure too great economies and have thereby reduced the efficiency of the selling department.

Q. And reduced the sales in proportion?—A. Reduced the sales.

Q. Can you give us any more definite data with reference to the number of traveling men whose services have been dispensed with in the

United States Rubber Co. and the Rubber Goods Manufacturing Co.—*A.* In the case of the United States Rubber Co. there has been a saving of 25 per cent. In the case of the Rubber Goods Manufacturing Co. the saving has been less, from the fact that the policy which has prevailed in the management of that company has been to sustain the individuality and independence of each concern, believing that in that way a higher efficiency would be secured in the selling branch of the business. Although the latter method has been more expensive, experience has proved that it has been of advantage to the company not to attempt to secure the last economy.

Mr. Flint mentioned as other benefits of combination that production had been better regulated, to meet the actual demands of the trade, thus avoiding overproduction and demoralization of the market. There had also been economies in the shipment of goods in large volume to storage houses in the West.

Asked in relation to economies in the purchase of raw materials, Mr. Flint replied :

As a rule there is not much saving to be secured in the purchase of staple merchandise. In some cases the large consolidations are at a disadvantage, owing to the fact that they are such large buyers. In general, I should say that some economies can be secured by them, but these would not be important unless the combination should use a very large percentage of that particular kind of raw material anywhere produced. In considering the raw material market, it is necessary to include in your calculations all the raw material in the world, owing to the present facilities for quick transportation. Raw material in London is as available as if it were around the corner ; therefore, unless an industry uses a large percentage of the raw material that is produced in the world at large, no important advantage can be obtained.

Mr. Flint said on another point : " Last year the United States Rubber Co., doing a business of about \$25,000,000, lost less than \$1000 by bad debts. - - - I think that the loss by separate companies would have averaged on a business of that volume over \$100,000 a year."

The interchange of secret processes among all the factories was mentioned as one advantage of combination.

Q. In case of the manufacture of rubber, are there secret processes of manufacture that are of any value?—*A.* Yes ; there are secret processes, and the issue of common stock would represent the value of those processes.

Q. Take, for example, twenty rubber plants. How many secret processes do you suppose there would be, possessing any market value which some of those concerns would have and others not?—*A.* No concern would be manufacturing under exactly the same processes, but the manufacturing of rubber is something that might be likened to cooking, and in many cases it is dangerous to dictate to your cook as to how she shall mix the dough. It is not possible in the manufacture of rubber to dictate to all the companies the accurate methods that you would in the manufacture of metals, but substantial advantages have been gained by the general adoption of processes that heretofore have only been used in one factory.

Mr. Flint mentioned one other benefit to the rubber shoe industry from combination : " In going through the depression to which one of you has referred, from 1893 to 1897, although the volume of business fell off very materially, our factories were left running and our help was regularly employed during all that period, and at the same time our stockholders received a fair return on the reduced volume of business. There were no failures, although I would state that if it had not been for the fact of the combination I am satisfied there would have been three or four important failures in the industry."

SOME GENERAL CONSIDERATIONS.

"In general, I think that a centralized management is the most desirable, if there are men of sufficient intellectual ability

to administer an extended business. It is difficult to find a man of sufficient ability to run one large business, and there are not a great many intellectual giants that have the ability to run ten or more large businesses. In my judgment, one of the dangers to the success of industrials is that parties, without being intellectual giants, are liable to attempt to centralize too much. Taking men as they are, I think that in businesses where high class ability is required at many places, and where the business is not of such a character that its conduct can be reduced to rules, and where its success depends on local ability and local judgment, and where the efficiency of the selling department is involved with long time personal relations, such a business it may be very dangerous to suddenly centralize.

"It is far wiser, I think, in a case of this kind, to sustain the independence and individuality of the separate concerns. In that way you have the advantage of the organizations that have created those concerns, and by an adjustment of compensation, based somewhat upon the earnings of those individual concerns, you sustain the individual interest that is essential to success. At the same time your central organization has the advantages of comparative accounting and comparative administration, and is able to hold the separate concerns to a strict accountability, or, by appealing to their pride, to promote a healthy spirit of rivalry. In many cases it is my judgment that this idea of centralization can be carried too far, and that it is often much better to have these concerns run independently. Now, it may be said that you do not get the full benefits of centralization. That is very true. But, on the other hand, I believe you get a more efficient management than you would by centralization. Under that plan, through a system of comparative accounting, you are enabled to measure the different managements, and you can go a long way toward bringing the standard of all up to the standard of the best, and in case of any great situation arising—for instance, like the one you have just brought up—it can be better handled. [Reference was made here to the formation of the American Bicycle Co. which was a combination of customers of tires.] An individual concern could not have dealt with that problem successfully. The Rubber Goods Manufacturing Co. were able in the above case to deal with the problem and make an arrangement that was for the common benefit."

Q. You speak of this system of comparative accounting. In your own establishments how frequently do you get reports?—*A.* Every month.

Q. So that you can compare each one of the separate establishments every month?—*A.* Yes.

Q. That is true of all the combinations in whose management you are active?—*A.* Yes, practically true of all of them.

"In most cases I think that the pride which a man, knowing that his work is being compared with others', has in handling his business successfully, together with the incentive given him by reason of an interest in the profits of the business he is managing, keeps up that individual interest that exists where the person possesses a large ownership. But in many cases it does not ; the fact of it is, that one of the fundamental difficulties of the management of these corporations lies in the fact that the managers have a smaller percentage of interest in the operations that they are conducting under the plan of an industrial combination than they had when it was an individual property or when they had a large interest in a small corporation.

"That is fundamental. There is no way in which that condition can be changed. My experience has been that the best way to meet that condition is through an accurate system of comparative accounting, and in that accounting it is advisable

not only to compare general results, but to compare details so as to find the cost of different parts of the process. At the same time it is advisable to have the managers interested in the profits of the business. That comes as near as possible to solving the difficulty.

"On the other hand, there are lines of business of such a character that they can be all handled from a central office. Such a business can be reduced to a very accurate system. For example, the manufacture of metals can probably be reduced to a more accurate system than the manufacture of rubber goods, since in the latter there is no way in which you can utilize the chemist to any extent. You cannot lay down any positive rules as to chemical combinations, because those materials are constantly fluctuating, and there is such a great variety of conditions to meet that the business of manufacturing rubber goods must largely depend on local intelligence, and that necessitates high class ability in the local management. In the case of the Rubber Goods Manufacturing Co., the salaries of the chief executive officers are very small as compared with the salaries of local managers. The salaries of the local managers will average three times the salaries paid to the chief officials of the corporation."

Q. That does not hold where the industry is more concentrated, of course?—A. In case of concentration the big salaries are at the top.

In answer to a question regarding a world-wide combination in the rubber industry, Mr. Flint replied:

"I do not think such an idea is practicable. To-day the limit of these combinations is the finding of men of sufficient capacity to handle such an extended business; and I do not think that such a combination is within the range of possibilities. If such a combination existed, and one concern owned all the rubber factories of the world, it would be immaterial as to whether there was a tariff or not so far as that industry was concerned. However, it would be material to the labor interests of the country."

EXPORT TRADE IN RUBBER GOODS.

"THE difficulty with extending the export trade in rubber shoes," said Mr. Flint, "lies in the fact that we are paying in our factories about double the rates of wages that are paid in the foreign factories; and inasmuch as the manufacture of rubber boots and shoes is largely dependent on hand labor, we cannot develop a very large export business on account of that handicap. It is an industry that we have created in the United States, and some of our people established the business in Europe; but as the rates of wages are so much higher in the United States, and as we have no advantage over Europe in securing the raw material, I do not think we are likely to develop a large export trade. In the case of steel and cotton goods we have an advantage, inasmuch as we produce the raw material in the United States; and in those articles the percentage of labor is very much less than the manufacture of rubber shoes."

THE TARIFF AND THE RUBBER INDUSTRY.

Q. You know that Mr. Havemeyer said that the protective tariff is the mother of all trusts. I would like to ask you if that is true in regard to this combination of yours, whether the tariff has enabled you in any way to make a combination?—A. No; the relation of the tariff to the rubber industry has received practically no consideration on the part of rubber manufacturers, except in the case of rubber clothing, which would amount to, say, less than one-half of 1 per cent. of the total industry. Very few rubber manufacturers could tell you what the percentage of the duty is. They have not given it any consideration.

Q. Is it not true that the manufacture of mackintoshes is protected in this country by the tariff?—A. Yes; but there are people who insist on wearing English clothes, and they are supplied by the mackintoshes of London.

Q. Then as the promoter of this combination, you are not able to say whether the tariff is of any benefit to you or not?—A. I could not say. I assume that if the tariff was entirely removed it might be that some parties would take advantage of the lower rates of wages in Europe. In fact, Americans would be very likely to establish factories abroad, utilizing the cheap labor, and then to bring the products into this country. The most important rubber factory in Great Britain, for instance, was established by an American. He took the machinery over there and established the business in Edinburgh. Well, in the event of the tariff's being taken off, I should say that the rubber manufacturers would take advantage of the low priced labor and take American methods to Europe, and combining with their cheap labor, would be able to produce rubber goods cheaper than they could be produced in the United States.

THE PRICE OF CRUDE RUBBER.

"INASMUCH as rubber is produced in countries of comparatively small populations and is used in countries of rapidly increasing populations, and as the uses of rubber are constantly increasing, there has been under the working of the law of supply and demand an increase in the price of crude rubber, although the production of crude rubber increases at the rate of about 6 per cent. per annum. The prices of rubber of the standard grade, which averaged in the seventies about 70 cents a pound averaged in the nineties about 90 cents a pound."

"You think then the combination of rubber interests in the United States has no power in keeping down the price of raw material?"

"So far as they have prevented any great speculative advance in the article. Before the organization of the industrials to which we have referred, the speculators on two occasions advanced the price of rubber about 60 per cent. Since the organization of these industrials these companies and affiliated interests have held sufficiently large stocks of rubber to avoid any radical speculation in the article; but inasmuch as the demand and new uses have gone on so generally, they have not been able to keep down the price of the raw material."

SUBSTITUTES FOR RUBBER.

"I HAVE been in the crude rubber business for twenty-three years. During that twenty-three years no three months have elapsed that some man has not come into my office and presented to me a rubber substitute that could be made for 10 cents a pound, as against the cost of rubber averaging 90 cents a pound. I have investigated every proposed rubber substitute that has been presented to me for the past twenty-three years, and have a laboratory for the purpose of making these investigations at the present time. So far we have not found a rubber substitute. - - - There are parties using so called substitutes for rubber; but the principal value of rubber lies in its elasticity, and so far no substitutes have been found that have any considerable amount of elasticity, and instead of being called substitutes they ought to be called adulterants."

RUBBER CONSUMPTION IN CANADA.

CANADA imported during the fiscal year ended June 30, 1901, a slightly smaller amount of India-rubber and allied materials than during the preceding year, the value officially stated being very much smaller. The figures follow:

CLASSIFICATION.	Pounds.	Value.
Gutta-percha	19,845	\$ 13,388
India-rubber	2,997,017	1,755,480
Rubber recovered; rubber substitute and hard rubber in sheets	1,395,333	179,882
Rubber powdered and rubber waste.....	512,642	35,854
Total.....	4,924,837	\$1,984,554
Total, 1899-1900.....	5,091,780	2,312,299



RISE AND DECLINE OF RUBBER PRODUCTION IN COLOMBIA, SOUTH AMERICA.

THE WASTE OF RUBBER RESOURCES.

THE above diagram is designed to illustrate the rise and decline of the production of crude India-rubber in the United States of Colombia, in South America. The volume of production there at one time was second only to that of Brazil. But this was attained only through the practice of destroying the rubber trees, whereby the immediate yield was larger than if the trees had been merely tapped for their *latex* and allowed to stand for future use. Consequently wide districts, naturally rich in rubber, soon became wholly exhausted, and have since remained so. In some districts, it is true, attempts were made by the authorities to prohibit the felling of the trees, whereupon the Indians tapped them excessively, with the same result—the speedy death of the tree. For awhile the total output from Colombia was maintained at a high figure, through the activity of the *caucheros* in penetrating new regions, but wherever they worked the same wasteful practices were followed, and when the inevitable decline of production began, it was rapid, as is indicated in the diagram.

In 1857 Great Britain imported 12,320 pounds of crude rubber from Colombia. The amount increased yearly until 1868, when it was 1,867,376 pounds. There was then a steady decline, until it had fallen to 45,472 pounds in 1900.

No record is available of the first imports of Colombian rubber into the United States, but by 1873 the receipts from that source amounted, in one year, to 5,738,529 pounds, or more than the imports from Pará. Then the decline began, and last year only 815,091 pounds were imported from Colombia.

The record of total exports from Colombia, upon which the diagram is based, is made up by adding the imports from that country, year by year, by Great Britain and the United States, together with small amounts taken by Germany in 1899 and 1900. There is no consideration here of the small shipments direct to France, and also to Germany during certain years

other than those mentioned. It may be mentioned that the quantity received by the United States during some of the earlier years has been estimated, since the custom-house returns for those years take account only of values. But if absolutely accurate figures could be obtained, they would not affect the general conclusion to be arrived at—that the rubber resources of Colombia have been simply wasted.

The rapid decline in the Colombian production of rubber gave no concern to consumers, for the reason that discoveries of rubber were being made elsewhere at a rate which gave a steady impetus to the world's total production. New fields have been opened constantly elsewhere in South America, and the enormous output from Africa has occurred almost wholly since the palmy days of rubber collection in Colombia.

But the situation in Colombia is referred to here as affording an object lesson which, ultimately, must be considered seriously throughout the rubber world. The *caucheros* of Colombia had no sooner devastated the richer and more accessible rubber districts of that country, than they descended to Ecuador, and, following the principal streams, repeated their work of destruction in that country. Thence they entered Peru, Bolivia and eastern Brazil—everywhere, without molestation, carrying on the work of extinguishing the rubber tree.

Eleven years ago the United States consul at Pará, Major Kerbey, reported to his government:

The Peruvian rubber or caucho forests are already fast disappearing, and the nearest are now far away. The practice of felling the tree to collect the rubber has destroyed all the trees near the rivers, except far up on the Ucayali and Javary rivers. It is affirmed that extensive tracts of forests have not yet been touched, but that they are difficult of access on account of the distance from the rivers and the lack of roads. It is perfectly safe to assert that in the near future all the available caucho forests of Peru will have disappeared unless other methods are speedily adopted.

Other warnings of the same kind have not been lacking, all

the time, but of what avail? The *caucheros* have worked without restraint. It has been nobody's business at Pará how Caucho was collected, so long as it continued to come down the river into their hands. The manufacturers in the United States and Europe have had no concern in the matter beyond buying at the lowest possible figure at the nearest market. Besides, why should they become alarmed at reports of exhaustion of supplies, when they could see with their own eyes larger imports every year?

The situation may be stated in few words: There are just so many millions of Caucho trees in South America. It is possible, by cutting down more of these every year, to increase the production of rubber of this type, as is still being done. But the faster this work is carried on, the sooner will be the beginning of the end, when there will be a decline in the output of Caucho, which may be measured by such a diagram as has been drawn up to illustrate the case of Colombia.

"Caucho," by the way, is Spanish for Caoutchouc, or India-rubber, and is the name by which this product is known in Colombia. When the Caucho gatherers descended into the region of the head waters of the Amazon, they were still in Spanish territory, and when they shipped their collections down to Pará, as the quality was different from the Pará rubber, the Spanish name—Caucho—followed the material to all the markets of the world, to distinguish it from the other shipments from Pará. The tree which produces this rubber is the same as the rubber tree of Central America, and the same that is being planted to-day in Mexico.

It is not alone in South America that the condition above described exists. The rubber output from Assam has fallen off. There is now almost no Madagascar rubber coming to market. THE INDIA RUBBER WORLD lately has recorded a marked decline in the production of Accra, Lagos, and Benguela rubbers. And letters have been received predicting a similar situation in the Congo Free State. In all the countries and districts here referred to the sole method of obtaining rubber is by destroying absolutely the source of supply.

To-day almost the only rubber gathered by other means than the destruction of the tree is the Pará rubber, obtained from the *Hevea* species. Ultimately, unless other means are adopted with regard to rubber species, the Pará trees must be the world's sole reliance for rubber, and even these are known in many cases to be damaged by careless or excessive tapping.

The one encouraging sign is the tendency toward planting rubber, on a large scale, with a view to harvesting the product under intelligent supervision, by means designed to render the

trees permanently productive. Every ton of rubber that reaches the market, whether from the "Caucho" districts of South America, or from Africa or the East Indies, emphasizes the future need of rubber plantations, for it means a lessened number of wild trees. And every ton of such rubber strengthens the probability that cultivated rubber produced under right management will sell for all that it costs to grow it—and more.

The illustration on this page is the most eloquent statement that can be made of the causes of the exhaustion of rubber supplies.



DESTRUCTION OF FOREST RUBBER TREES BY NATIVES.

[By courtesy of the Tehuantepec Rubber Culture Co.]

It is made from a photograph taken in the Mexican forest; it could be duplicated, practically throughout the rubber belt around the world. In the July issue of the INDIA RUBBER WORLD appeared an illustration of a Balata tree, undergoing similar treatment, and Dr. Obach's work on Gutta-percha contains a view of the felling of the trees which produce this material in Sumatra. The ultimate fate of the Balata and Gutta-percha trees, by the way, has a certain

bearing upon the rubber interest. The prospect for the production of these gums under cultivation is much less promising than in the case of the India-rubber species, and the time may come when the whole demand for insulating materials, especially for ocean cables, will have to be met from the world's rubber resources.

RUBBER PRODUCTION OF COLOMBIA.

RECORD of Importations from Colombia into the United States for Fiscal Years ending June 30, and into Great Britain for Calendar Years—in Pounds:

YEARS.	United States.	Great Britain.	TOTAL.
1855-1860.....	2,300,920	17,472	2,318,392
1861-1865.....	3,435,264	3,516,240	6,951,504
1866-1870.....	9,608,376	5,594,512	15,202,888
1871-1875.....	22,952,386	3,907,232	26,859,618
1876-1880	17,394,793	1,194,144	18,588,937
1881-1885.....	9,503,916	979,136	10,483,052
1886-1890.....	4,309,306	727,516	5,036,822
1891-1895.....	3,848,365	1,035,328	4,883,693
1896-1900.....	3,152,957	1,146,880	4,299,837
Total.....	76,506,283	18,118,460	94,624,743

NEWS comes from Germany of a visit by Prof. George Lincoln Goodale, of the botany department of Harvard University, to Magdeburg, for the purpose of studying the history of the development of the sugar beet, from the period when it was found growing wild on the shores of the Mediterranean, in the hope that by the application of similar principles to the cultivation of rubber a larger yield may be obtained than is now the case.

YIELD OF THE PARA RUBBER TREE.

IN a report on the rubber production in the state of Amazonas, by the British vice consul, Mr. Temple—which, by the way, is the most informing report on this subject that has yet appeared in print—he says: "It is not possible, in the present state of the industry, to give any precise data as to the average yield of *latex* per tree." The examination of the books of a number of rubber estates actually working, however, leads the consul to estimate the average yield per tree of cured rubber at 2.2 to 3.3 pounds per season, under favorable conditions, though trees are tapped on estates where the average is not more than 1.1 pounds.

A recent visitor to THE INDIA RUBBER WORLD from Bolivia said that he had never had reason to calculate the yield per tree. If, in a given district, 25 arrobas per *estrada* could be obtained, it was regarded as an exceptionally good yield; when it fell below 10 arrobas per *estrada*, the rubber hunters moved away. Now, counting the arroba as 32 pounds, and one *estrada* as 100 trees, the best rate under this estimate would be 8 pounds per tree, and the smallest 3.2 pounds. But not only is the number of trees per *estrada* variable, but the arroba is not always the same. The fact is, little regard is given to weights except to the total, at the end of the season, and the weight for which the collector finally gets credit, at Manáos or Pará, is less than the estimates made on the rubber "farm."

A report made to the stockholders of the Société Anonyme La Brésilienne, on the great richness of the rubber on their estate in Bolivia, mentions that a laborer can gather 40 kilograms per fortnight from one *estrada*, which would figure out 13.2 pounds per tree, for a season of 180 working days.

A prospectus of a rubber "farm" for sale on the river Jurua, in Brazil, of 200 *estradas*, gives figures on the yield which point to a yearly average of 15.84 pounds per tree per season. Another private estate for sale on the river Purus is claimed to yield at the rate of 11.88 pounds per tree. But it will be recalled that when the estate of the Visconde de São Domingos, on the island of Marajó, was sold to the Pará Rubber Estates, Limited, the former owner claimed an average yield of 8.8 pounds per tree, though a detailed statement, made for the company's prospectus, of the working of the estate for 1895, figures out only 6.89 pounds per tree—always assuming that the *estradas* embrace 100 trees each. Another company, the Amazonas Rubber Estates, Limited, was "floated" in London on a prospectus which indicated a yield per tree of 17.6 pounds, this being on the river Teffe, above Manáos. Another "expert" quoted in the same prospectus, however, was content to estimate a yield of only 10 pounds. But the promises of these last two prospectuses have not been realized with regard to profits, and presumably have not been with regard to yield.

The English scientific observers sent to the Amazon a good many years ago to study the rubber situation in connection with forming plantations in India, while reporting in great detail the methods of tapping trees and coagulating the *latex*, singularly failed to note the rate of yield. But Mr. James Collins did mention obtaining "six ounces in three days" from a *Hevea* tree, which, counting 180 days to the working season, would give 22½ pounds to a tree.

Sir Martin Conway, in a work just published, on "The Bolivian Andes," says that estimates of the rubber yield vary. He found nobody counting on less than 3 pounds per tree per year, and no estimates higher than 7 pounds. The law in Bolivia, by the way, regards an *estrada* as embracing 150 rubber trees.

Here has been summarized about all that has been made pub-

lic in regard to the yield of the Pará rubber tree, and the reader is free to form his own conclusions. To quote the British consul again: "Two trees growing close together and under apparently precisely similar conditions, will often vary very much as regards their yield."

More accurate data exist with regard to the yield of the Pará rubber tree under cultivation. In the Ceylon botanic gardens the late Dr. Henry Trumen tapped one tree with these results:

At the age of 11 years.....	1 lb. 11¾ oz.
At the age of 13 years.....	2 " 10 "
At the age of 15 years.....	2 " 13 "
At the age of 17 years.....	3 " 3 "
At the age of 19 years.....	3 " 0¼ "

Superintendent Derry, of the government plantations at Taiping, Straits Settlements, wrote in 1897: "A few [Pará] trees, twelve years old, produced 3 pounds each, but in no instance were the tappings exhaustive."

THE BOLIVIAN COMPANY.

IT appears that the company for exploiting rubber in Bolivia, mentioned by our British correspondent in THE INDIA RUBBER WORLD for August 1, is one which has been organized through the efforts of Sir Martin Conway, of England, whose interest in Bolivian development has been referred to in these pages more than once. But it does not relate, as supposed in some quarters, to the Acre district, lately in dispute between Bolivia and Brazil. The August *Bulletin* of the Bureau of American Republics gives space to a copy of the contract entered into between the Bolivian government and "The Bolivian Company," the signature in behalf of the company being that of George H. Bridgman, United States minister at La Paz, whose interest in rubber development has been manifest in different ways of late.

The government of Bolivia on September 25, 1900, authorized Sir Martin Conway to organize, in England and the United States, a company to exploit the natural resources of the province of Caupolican and the river Kaka, province of Larecaja, as a result of which has been incorporated The Bolivian Co. The government concedes absolutely 15,000 square miles of territory, to be located within the region bounded by the rivers Beni, Kaka, and Pando. The company shall have for fifty years exemption from duties on all material imported for the development of their concession. They shall deposit with the government in each year one third of their net profits from any source, the same to create a fund for works of public utility. The company are required to send out an expedition, to embrace a surveyor, a mining engineer, and a botanist, to explore the country referred to, and locate the lands to be chosen in behalf of the company. Meanwhile the government agrees not to make concessions to other parties of any lands within the region here referred to. As reported in THE INDIA RUBBER WORLD for August, this expedition has been dispatched already.

It is believed that important mineral resources exist within the district here mentioned, in addition to a wealth of India-rubber.

THE working of rubber has been begun in the department of Santa Cruz, in Bolivia, where the supplies of "fine" rubber are reported very abundant. "Caucho" has also been discovered in southern Bolivia. In order to facilitate the export of these products a national custom house has been established on a tributary of the Paraguay river, the waters of which discharge successively into the Parana and the rio de la Plata, reaching the seaboard at Buenos Aires.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

ENQUIRIES among manufacturers show that the very fine summer which we have experienced has not been without its adverse effect upon this branch. More so than is perhaps generally recognized, this business has become one of hand to mouth, as far as the dealers are concerned. The manufacturer cannot turn out goods to order at a moment's notice, and has perforce to keep a considerable stock, biding his time in some anxiety as to how soon he will be able to dispose of it. A succession of rainy days after periods of drought, such as we have experienced this summer, may make a difference of several thousand pounds to a proofing firm in a day or two, owing to sudden demands for immediate delivery. The regrettable failure of H. H. Royle & Co., Limited, may not have been entirely attributable to the bad season it has been for the proofing trade, but it can hardly have been independent of it. The withdrawal of Mr. Nadin, one of the originators of the firm, was no doubt a source of injury, and it hardly needs to be said that a new firm, unless very substantially backed, finds considerable difficulty in making headway. The falling off in the large government contracts for ground sheets has made considerable difference in the amount of business done in the proofing departments of several of our large factories this year compared with last year, and I hear of short time instead of overtime being worked.

WATERPROOF GARMENT TRADE.

REPORTS of the state of business in this branch are quite reassuring, though one does not hear of any great activity. As in the case of textures, the business has become much more of a hand to mouth one than was formerly the case, practically no stock being now held by the dealers. At one time it was customary for dealers to buy sheets of mechanical rubber and to cut from them valves, washers, etc., to their customers' orders; now, however, the individual orders are sent on to the works where they are expected to be delivered immediately, a state of affairs not particularly conducive to the peace of mind of the manager and his subordinates. As the manager of a large works remarked the other day: "Things are very different to what I can remember, and the alteration in procedure is not acceptable to me, though I have to fall in line with it."

THE MECHANICAL TRADE.

THE "Kopalin" band for preventing puncturing in tires has lately attracted some interest, though it must be confessed from reports to hand that it has not come up to the sanguine expectations of those who have purchased it. The band, which is composed of some material of the nature of leather, is interposed between the tube and cover of pneumatics with the object as just stated. The drawback, however, seems to be that as it is not fixed rigidly in position it is liable to "creep" when the motor is traveling at a high rate of speed, and the friction thus caused sets up enough heat to seriously damage the adjoining parts of the tire. It certainly seems desirable that the band should be attached firmly to the cover, so as to entirely obviate any such friction. It is hardly promising to hear of a new introduction that it is not only of no benefit but that it destroys the tire and causes breakdowns in inconvenient spots. In saying this it is hardly necessary for the writer to aver his disinterestedness; if the disasters which have occurred should turn out to be isolated ones, which should not be taken as a

basis for general condemnation, the fact will be notified in these columns at the first opportunity.==With regard to certain British attempts to produce motor tires of the first quality, the complaints which have arisen seem to be attributable entirely to defections in the canvas and not to the rubber, which is said to be quite equal to that of Michelin's make. This is evidently a matter which requires closer attention than has been hitherto devoted to it. The motor tyre of the Collier-Irwin Co., of St. Albans, is being made by the Leyland and Birmingham Rubber Co. It is a pneumatic tire with a thick thread, considerably elongated so as to reduce friction as much as possible. There seems to be some difficulty in the supply of the Michelin tire by the Dunlop company, and a customer who had to wait two or three weeks said he thought he would be justified in importing it himself under the circumstances. It is a matter of regret to some automobilists that the motor tyre of the Continental company is not to be bought in England, its reputation being such a good one. With regard to the washers used with the clips for fastening the tires in the wheels, it is pointed out to me that some which are sold at a low price are bad economy, as when they crack water gets in and rots the canvas, thus doing considerable damage: this source of injury should be obviated by frequent examination of the washers.

MOTOR TIRE INTERESTS.

IT is interesting to read in THE INDIA RUBBER WORLD of the recent growth of the Balata industry in Venezuela. With regard to the extraction of the body from the bark of felled trees, I was not aware that the use of volatile solvents, which was proposed four or five years ago, had been adopted in earnest. The reservation with which the matter was treated in the report given in this journal precludes any comment of value. Perhaps the cost of naphtha in such out of the way districts would not after all be prohibitive when condensing plant is in operation, though practical men in the Straits Settlements have always been of opinion that processes such as that of Serullas for obtaining Gutta-percha from leaves could never succeed on account of the difficulty attending the obtaining of supplies of naphtha solvent at a low enough price. It is clear that Balata is finding increased application, though I am not in a position at present to give any statistics in reference to its employment for various purposes. In a recent lecture in England Mr. Harrison, government chemist and geologist of British Guiana, seemed to imagine that it was chiefly used in England for insulation purposes, but as far as I can make out this idea is totally erroneous.

BRITISH COMBINES.

THE very unsatisfactory results from the shareholders' point of view, which have attended the large English textile combines, have created quite a revulsion of feeling on the part of the investing public, and any further attempts in this direction would meet with but a sorry reception. One does not hear anything of an attempt to revivify the dry bones of the defunct proposal with regard to rubber works, although a certain amount of pessimism finds expression with respect to trade prospects should the threatened rise in the price of the raw material come to pass. It is certain that should any such attempts be made, the public would be exceedingly shy about giving its support. Even where there is no gross overcapitalization, the excessive sums which important firms will exact as good-will—that very intangible as-

set—coupled with the centralization of management, are now being recognized as factors which work only for evil. In more than one of these concerns agitations are on foot to secure a radical change in management, but as the subject does not directly affect the rubber trade at the moment, it need not be pursued further here.

WITH regard to the humorous remarks on government inspection of manufacture, which appeared in the August issue of THE INDIA RUBBER WORLD, it may be of interest to state that British rubber manufacturers who take up government contracts are liable to periodical visits from some official. Not that this official, who is often the chemist, takes upon himself the duty of in any way superintending the manufacture, as is done in the case of iron and steel inspectors; the visits, between which a long interval of time may elapse, are merely in order to see that the clause notifying that contractors must be *bona fide* manufacturers is being duly observed. The American proposal that an inspector should certify to the amount of Pará rubber used is certainly somewhat startling, and would create quite a flutter in the dove-cotes here if it was to be emulated by our government departments. The position, it may be premised, of such an inspector would not be a particularly enviable one; indeed he would have to be of more than ordinary sagacity if he wished to occupy his position to greater effect than has been the case with our police officers who have had to perform such duties as are enacted in the special order in council referring to the importation of the Colorado beetle, which, by the way, has recently paid a second visit to us, or in the Wild Birds Protection acts.

ALTHOUGH the rubber trade, in conformity with the bulk of our industries, can supply a good many croakers at the present time, there are no signs of any general atmosphere of depression. Here and there, it is true, a lugubrious tone is evident when profits are under discussion, but this state of affairs is certainly not universal. The report of the Leyland and Birmingham company, recently announced, may be taken as an index of the hopeful tone prevailing in sound concerns. By the way, in regard to this company, it should not be overlooked that the dividend of $7\frac{1}{2}$ per cent. at present paid is on a capital which has been considerably "watered" since the old days when dividends from 25 to 40 per cent. were paid. The conversion took place a few years ago, at the death of the chairman, Mr. John Riley, it being considered advisable to make the alteration for certain reasons, one of which was a growing disposition among the workmen to think that in face of such big profits they ought to be paid on a more liberal scale. The recent extensions that have taken place at the works render the concern one of the largest and certainly in many ways one of the best laid out works in the country.

THIS heading is somewhat vague in itself, as affording no indication of what it refers to. The point, however, is not of primary importance as the text will clear up the mystery. Briefly, what I wished to draw attention to as a somewhat important fact for those who are not "in the know" is the business relationship of chairmen as proprietors of rubber factories with firms who, under distinct names, carry on business with the rubber trade in chemicals, textiles, or what not. It is not my purpose to go into details of names or places, but only to refer to the matter in a general way. Let us suppose that the managing director of a rubber factory is also in much the same position in a firm supplying rubber chemicals; the latter firm will be in a position to obtain samples and prices of his competi-

tors' goods in a way which is too obvious to require mention. Further, it is morally certain that mutual business will take place between the two firms to an extent which will render an outsider's chance somewhat remote. In the case of a public rubber company, it will easily be seen that the best interests of the shareholders may suffer to a greater or less extent. There is, however, it should be said, an obverse side to the picture, for where such community of interests is known, independent rubber firms have been known to place their orders for chemicals elsewhere, rather than at a works where they will be carried out, or at any rate, inspected by the proprietor of an opposition rubber works. When the connection is known, then, it will be seen that really no cause for complaint exists, but where ignorance on the matter prevails, those who unwittingly give information which may be used against them, are clearly entitled to commiseration. If the Bill which Mr. Emmott, M. P. for Oldham, has tried, but unsuccessfully, to get through Parliament, does ever become law, the case will be met, as the full names of all partners in firms trading under assumed titles would have to be disclosed for the information of the public.

THE trial of a new system of ore concentration has given such good results, that it seems to portend the rapid decline of the Frue vanner, the machine that a year or two ago displaced the old Cornish treddle for concentrating gold, copper, and tin ores. The reliance is made here because a large amount of rubber in the form of wide belting is used in the Frue vanner, and the new process will not require any rubber at all.

REFERENCE has on former occasions been made in these columns to the contracts made by British railway companies for their requirements of rubber goods. In the case of Indian railways these contracts are settled by the consulting engineers, men like Sir Alexander Randel, who have their headquarters in that street of consultants, Victoria, Westminster, to wit. In the case of all such supplies, whether metals, machinery, or rubber, the consulting engineer has his local inspectors in various industrial centers, such as Sheffield, Manchester, and Glasgow, and these gentlemen have the right of entry into the factories where the goods are being made. Samples are regularly taken and forwarded to Westminster, where they are analyzed, if this is considered desirable. This inspection extends to the rubber works (a fact which might have been referred to under one of the above headlines), though its scope is merely that of taking occasional samples, no attempt being made to supervise in any way. When the samples have been approved of the goods are sent direct to the port and do not come under the further cognizance of the London engineer. This class of work is rather sought after by the rubber manufacturers, but it is noticeable that the same firms get the contracts pretty regularly, although tender forms are obtainable by all firms alike, as on the British railway system.

COMPARED with what was the case five or six years ago, the cold cure is more extensively used than at any time since the Dry Heat cure came into general use. It is almost entirely in connection with the single texture printed surface goods and, despite the frequent attempts which have been made to sell substitutes for bisulphide of carbon, this liquid is still master of the field; in fact I cannot hear of its having been supplanted anywhere. Since the introduction of the regulations under the Factory acts it must be said that great improvement has been observed in the health of the work people, and no doubt as time goes on even further success will be attained in rendering the process innocuous to health.

GOVERNMENT INSPECTION.

RECENT DIVIDENDS.

COMMUNITY OF INTERESTS.

THE FRUE VANNER.

RUBBER SUPPLIES OF INDIAN RAILWAYS.

COLD CURE OF TEXTURES.

GUTTA-PERCHA CULTURE IN JAVA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: It is generally known that nearly all of the Gutta-percha now use is obtained from the Dutch East Indies, being shipped to Europe and America via Singapore. In order to gather the product, it is necessary to fell the trees and to remove the branches, as otherwise the sap would not flow freely. The trees generally furnish but a small quantity each of Gutta-percha, and their age, in the primeval forests, must be at least twenty years, in order to yield sufficiently to pay for the work of cutting them.

Great numbers of these trees are destroyed every year, and the natives are therefore compelled to invade the depths of the forests to a greater extent. That the export nevertheless does not diminish materially can be accounted for by the fact that the forests cover immense areas. But, when the situation is studied on small areas, as I did on the Island of Banca, the utter disappearance of Gutta-percha within a few years begins to appear inevitable. It will require many years before the same area can be exploited again. Because some of the *Palaquium* sorts furnish sap only at a late period, and then in small quantities, the probability of their total extinction is not an impossibility.

The government of Netherlands India has for years past considered ways and means to stop this wholesale destruction of Gutta-percha, but that is not an easy undertaking. It is possible to make forestry laws, such as to permit only the felling of mature trees, but the laws in themselves avail nothing unless the necessary personnel is employed to see that they are enforced.

In Dutch Guiana permits for the gathering of Gutta-percha [Balata] are granted by the government, on the payment of 1½ cents per acre. In Germany the proper supervision and care-taking of a forest costs only \$1.50 per acre per year. In Sumatra and Borneo the natives are exempt from this charge, and from the foregoing it can be seen that it is impossible to collect from the natives a tax sufficient to pay even one-half the expense of a proper forest supervision.

The only protection of the Gutta-percha industry from total destruction doubtless is the cultivation of Gutta-percha. Plantations of Gutta-percha surely would be made on a large scale in Java, if a sufficient profit could be derived from them. It is well known that the quinine manufacturers draw their supply mostly from the Java plantations, the forests of South America furnishing scarcely 5 per cent. of the entire world's production. The quinine culture of Java, when properly attended to, is very profitable; when there have been exceptions to this, it may be accounted for by the fact that there has been too much produced.

At present, no private planter of Java would cultivate Gutta-percha, because the time for obtaining a yield from the trees is too great, and the product too small, to make it profitable. This condition, of course, would be reversed if it should prove to be a fact that the product extracted from the leaves is lasting and of good quality. Of course the cost of production must bear a proper relation to the prices at which the product can be sold.

A prominent Netherlands company is at present exploiting the "Ledeboer" process, but inasmuch as the leaves have to be transported from the forests, it is next to impossible to guard against the dishonest methods of the natives, and it would be advisable that the company form plantations, in order that the sources of supply may be controlled.

In the year 1883 the Netherlands Indian government caused

a plantation to be made in West Java, under the superintendence of Dr. W. Burck, assistant director of the botanical gardens of Buitenzorg; this gentleman having made a study of the *Palaquium* sorts in the primitive forests of Sumatra.

A Gutta-percha plantation of *Palaquium oblongifolium*, which yields the best product, had already been made in Java by Teysman in 1854, and from there the seeds were obtained. There is great difficulty in obtaining seeds from the primitive forests. The *Palaquium oblongifolium* grows very slowly in West Java. Besides this tree there were planted in Tjepétir *P. gutta*, *P. borneense*, *P. trenbir*, *P. trenbir* var. *parvifolium*, and *Payena Leerii*, the seeds for which were furnished by the older trees of the botanical gardens of Buitenzorg.

Towards the end of the year 1890 these plantations passed from the control of the botanical gardens to the bureau of forestry; they covered at that time an area of over 160 acres, of which 100 were planted with *Palaquium oblongifolium*. The cost, exclusive of the expense of supervision, had amounted to \$26 per acre. In most of the sections the young trees presented a very unfavorable appearance, and the next few years were devoted to improving them. The planting of nurseries was difficult on account of the failure to obtain the seeds, and to multiply gutta trees from slips and marcottas is a doubtful procedure. Exclusive of the cost of supervision, \$80 per acre have been expended within the past few years, and yet the appearance of these gardens is in no wise imposing. As yet these plantations have not yielded one cent's worth of product, and the experimental tappings have given but little Gutta-percha.

The Indian government has petitioned the representatives of the people, therefore, to furnish the necessary means for new plantations, on a larger scale, in order that a more thorough test may be made, in order that the government may keep abreast of its task, as a colonial power.

A. H. BERKHOUT,

Wageringen, Holland, August 18, 1901. Late Cor servation of Java Forests.

NOTE.—The calculations of cost above are made upon the basis of American gold. The generic term *Palaquium*, used by Dr. Berkhout, is that commonly accepted in continental Europe, while English authorities designate the same genus *Dichopsis*, and formerly described it as *Isonandra*. By "marcottas" or *marcottas* is indicated a method of treating twigs or shoots so as to cause them to send out roots, after which the twigs are removed from the tree and planted in the ground.—THE EDITOR.

THE FIRST INDIA-RUBBER RAFTS.

IT is related by Sir Clements R. Markham, K. C. B., in one of the volumes of the Proceedings of the Royal Geographical Society, that about 1852 there was developed at Cuzco a strong interest in the subject of finding a water route toward the Atlantic, to which end an exploring party was formed to follow the river Amaru-Mayu, or Madre de Dios. The party was made up of thirty-six youths from the best families of Cuzco, under the leadership of Manuel Ugalde, a talented young artist. Ugalde had conceived the idea of utilizing the India-rubber of the surrounding forests in the construction of a raft, which was done by preparing a number of waterproof cylinders, by native processes, and securing them to poles which formed the framework of the raft. Two such rafts were made, but they came to grief through being dashed upon the rocks below an unsuspected cataract. Ugalde had taken the precaution to provide life belts made from the rubber he had prepared, and the men were all saved. But the expedition had been brought to a standstill, and the exploration of the river was left for a much later date. This has since become an important rubber producing section.

RUBBER PLANTING INTERESTS.

JOSEPH O. STOKES, treasurer and general manager of the Home Rubber Co. and president of the Trenton Rubber Manufacturing Co. and the Joseph Stokes Rubber Co., has accepted the presidency of the Isthmus Rubber Co. of Ubero, another indication that prominent rubber manufacturers are taking an active interest in the cultivation of rubber.

MUTUAL RUBBER PRODUCTION CO., NO. 1.

[Plantation on the Tulija and Agua Clara rivers, department of Palenque, state of Chiapas, Mexico. Offices: 95 Milk street, Boston, Massachusetts.]

INCORPORATED; capital, \$1,440,000. The officers are: *Charles A. Coe*, wholesale rubber goods dealer in Boston, president; *Walter L. Hall, M. D.*, of Medford, Massachusetts, and the owner of a private rubber plantation in Mexico, vice president; *Charles F. Coburn*, a Boston capitalist, treasurer; *D. N. Graves*, who has been connected with another rubber plantation, secretary and general manager; *E. W. Graves*, a trained horticulturist, plantation manager. The company have acquired a tract of 6175 acres, and will plant 600 trees to the acre, with the idea of thinning out later. Shares are offered, payable in installments, each share representing an acre of the plantation.

HONDURAS.

In our May 1 issue was mentioned the interest of Señor Nicanor Bolet-Monagas, son of the consul general at New York for Honduras, in rubber planting in the latter country. He has since accompanied to Honduras a party of young gentlemen from the States, each with some capital, who intend planting rubber extensively in the neighborhood of Señor Bolet's estate. Señor Bolet has contributed to *El Exportador Americano* (New York), his views on the cultivation of rubber in Central America, in connection with which he recommends concert of action, both for the general advancement of the industry, and in order that the planters may be prepared to protect themselves if the time should ever come, as it has in the coffee interest, that overproduction should lead to a decline in prices and profits.

The report for 1899 1900 of the Honduras ministerio de fomento y obras publicas, states that the cultivation of rubber has been begun in the department of Choluteca. Arthur H. Howland, of the United States, it is stated, has obtained a concession for the establishment of a large rubber plantation in the department of Olancho, and increased interest in rubber planting is being shown by individuals throughout the republic. Crude rubber is produced principally in the departments of Mosquitia, Olancho, and Choluteca. The Mr. Howland referred to was one of the incorporators, November 4, 1899, of the Pan-American Rubber Co., under New Jersey laws, with an authorized capital of \$1,000,000.

George A. Ellis, a civil engineer of Springfield, Massachusetts, has returned home after an absence since September last, having been engaged by the Pan American Rubber Co. (New York) in opening a road 80 miles long from the gulf of Honduras, to Valencia, a town on the river Patuca, where they have a rubber plantation. The road is made necessary by obstructions to the navigation of the river. The Pan American company are now removing the valuable woods on their concession, and gathering wild rubber.

THE GERMAN RUBBER EXPEDITION.

FROM time to time, at the sessions of the German Colonial Industrial Committee, at Berlin, reports are read on the progress of the Gutta-percha and Caoutchouc expedition to the South sea colonies, now in progress under the leadership of Herr Rudolf Schlechter. A recent report related to the botan-

ical gardens at Singapore. Gutta trees (*Dichopsis gutta*) and Caoutchouc plants (*Hevea*, *Willoughbeia*, and *Urceola*) are cultivated. No definite conclusion has been arrived at in the case of the Gutta trees, but the culture of *Hevea* (Paraí rubber) is said to have shown very good results. Fourteen year old trees yielded, on being tapped very prudently, 1 kilogram of fine quality. The 13,000 *Hevea* trees in the Singapore botanical gardens will not be tapped again, in order that the largest number of seeds for plantations may be obtained. It is intended to furnish annually from 150,000 to 200,000 seeds, at 1 cent each. The plantations have been made in comparatively swampy localities, which are flooded for a short period in each year, but it is stated that the trees growing on higher ground yield also a liberal quantity of Caoutchouc. Herr Schlechter, in the company of Mr. Curtis, the director of the botanical gardens at Penang, was next to visit the Gutta-percha and Caoutchouc plantations at Penang and Perak. Seeds and cuttings of Gutta-percha and India-rubber trees were to be sent to the South sea colonies, and, also to the German West African colonies.

In a later report Herr Schlechter wrote, from Malacca, in the Straits Settlements: "I next visited together with Tan Chay Yan, a Chinaman, the latter's rubber plantation, situated about six miles from town. What I saw here surpassed my highest expectations. The plantation consisted of a small area of 56 acres. On it were planted *Ficus elastica*—called locally 'Rambong'—and *Hevea* at intervals of 6 meters. The plantation was four years old and was kept in order by five Chinese coolies. As the proprietor assured me, the monthly expenses on the plantation are not higher than \$40 (silver), whilst annually by the sale of young seedlings the sum of about \$2000 has been received. This instance may be unique, as ordinarily four-year old *Hevea* trees do not furnish any seed, as has been the case here. Even one specimen of *Ficus elastica* had some fruit growing."

ON THE UPPER AMAZON.

THE Andes Rubber Co., was incorporated August 15, under Delaware laws, with \$2,000,000 capital, to acquire lands in Peru and Bolivia, and develop the same. The incorporators are Henry A. Parr, Nicholas P. Bond, Thomas F. McGlone, and Edward Powell Hill, all of Baltimore, Maryland, in which city the offices of the company will be located. It is understood that a concession or concessions of rubber territory have already been acquired.

TRINIDAD.

A RUBBER plantation has been established on this island by a Swedish professor of botany and natural history—Professor Bovallius, of the University of Upsala. He has purchased 4000 acres of government land and organized the Narva Estates Co., Limited, to grow India-rubber, cacao, and other native products. It is expected that rubber may be obtained within eight years from planting, and the meantime returns of value are expected from cacao, cocoanuts, and corn. By the way, the growing of cocoanuts is referred to as being very profitable. They were exported from Trinidad in 1899 to the value of \$225,000.

BURMA.

J. H. TODD, of Amherst, Lower Burma, writes to the Isthmus Rubber Co. of Ubero (New York): "Seeing your advertisement in THE INDIA RUBBER WORLD, I now write for particulars and prospectus of the company; also any pamphlet you may have on rubber planting, as I take great interest in the subject and have a small plantation of 5000 trees of *Hevea Brasiliensis* established here two years old, largest tree 12 feet high."

RUBBER PRICES IN GERMANY.

[FROM THE "GUMMI ZEITUNG," DRESDEN.]

A NEW boom is in sight. That is a description of the picture which the crude rubber market offers at present; a complete turn over has taken place within the last few days. The depression which has been dominant so long, and caused prices to recede, seems to have reached its end. Within the past week [late in August] prices have advanced 3 to 4 pence (English) per pound, and are still moving in that direction. All market reports received seem to agree that the market is firm and prices advancing.

The receipts were only 700 tons during the past month, and stocks are exhausted. The tendency of the market is feverish and prices change hourly, with strong inquiries. The causes for this change can readily be found. By the general unfavorable condition of the exchange, speculation holds aloof from crude rubber; but as now confidence has returned, and money is very flotsam, the speculators have thought it worth while to again turn their attention to the crude rubber market, and force an advance in prices, which has been made easy by the scarcity of stock on hand.

These conditions, of course, create a stir in the circle of rubber manufacturers, who will seek to have the prices of rubber goods follow those of the crude article. It will certainly be impossible for the rubber manufacturers to still further ease their prices in accord with the general industrial depression, and they will be forced, if this boom continues, to advance their prices in the near future.

It would have been better, of course, if no price reductions had been made at the time when crude rubber prices fell off a little, for that the slump was only a passing one could be foreseen with certain assurance. Now, dealers and manufacturers are confronted again with new difficulties, and the old fight to advance prices begins anew. But under present conditions, which are likely to remain unchanged, it can hardly be avoided. Those who are in possession of large stocks of raw material, as well as of manufactured goods, of course, can assume a waiting policy. Dealers would certainly be wise to sufficiently provide themselves, before the boom further develops itself.

"PACIFIC RUBBER CO."

TO THE EDITOR OF THE INDIA RUBBER WORLD: We were quite surprised, after looking through your issue of August 1, to learn that you have found out that the Pacific Rubber Co. are not incorporated and that they did not have any property. We studied their prospectus for three weeks before investing, though we did not find anything in it except that the promise of profit was unusually great. We had done some correspondence with them, and also with other companies to see the difference in their promises. After having studied it over, we have invested, with the intention of depending entirely upon the directors, whom we hear are first class business men. We thought such men as they are described to be, would not have their names spoiled by committing fraud. Another thing—we thought that if a company could use a corporate seal on their shares, it would first have to be incorporated.

One thing that has struck us as funny is that we received a prospectus of the company in June, and lately we received another which had been changed around a little. In the first place, Mr. C. G. Cano, as superintendent of the company, had been left out, and the Mexican manager had been left off the column of officers. However, at present we cannot say any-

thing, because they only promise dividends, payable monthly, which we received on the fifth of every month.

We received a letter recently from the United Securities Co. saying that the Pacific Rubber Co. have secured a contract, which will enable them to purchase 120,000 acres of adjoining rubber property in Mexico.

Brooklyn, N. Y., September 4, 1901.

SOME WANTS OF THE RUBBER TRADE.

[189] FROM Iowa a request comes for the names of manufacturers of small rubber balloons, such as can be retailed at 5 or 10 cents.== The same mail brings a like request from a dealer in Illinois.

[190] "Can you furnish me with the addresses of manufacturers of hot water bottles in England, France, Germany, Belgium, and Canada?"

[191] From Missouri: "Please send us a list of rubber reclaimers."

[192] A western house, in another line of rubber goods, writes: "We might be interested in a line of rubber boots and shoes to job, if we could run up against the right proposition."

[193] From a New York newspaper: "Will you kindly give us a list of those firms engaged in the rubber industry which have been in business fifty years or more?"

[194] From Senglea, Island of Malta: "You will oblige us if you inform us the address of some factory of India-rubber."

[195] From Chicago: "In getting together a number of industrial sets for use in our schools, it has been found desirable to secure an assortment of photographs or good prints illustrating the rubber industry. Can you favor us with addresses of parties likely to have these?"

[196] From Louisiana: "We desire to order several hundred large India-rubber straps and bands, and would be pleased to find a price list of such goods, stating dimensions."

[197] "Can you give us some names of firms making a business of equipping rubber manufacturing plants complete?"

[198] From Massachusetts: "Who manufactures a rubber covering for horse bits, other than tubing? We want something in the way of tape, with which the steel bit can be wrapped."

[199] "Are there any manufacturers of oilcloth outside of the recently organized Standard Table Oilcloth Co.?"

[200] From Iowa: "Who can supply rubber pads for barbers' scissors, and also rubber bibs?"

[201] From a jobbing house: "We should like to have you advise us who manufactures a rubber door bumper. We have several inquiries for bumpers of this kind, with a rubber ball hanging on a string."

[202] A request has come to us for information concerning a rubber substitute called "Andeline."

[203] From Germany: "I should feel greatly obliged if you could name a person in the United States who would be willing to act as agent for me in the sale of rubber waste."

FRANCIS J. HOLLOWAY, of the Kepitigalla estate, Metale, Ceylon, reports in the *Times of Ceylon*, having sent a consignment of Pará rubber produced on his estate [presumably to London], in regard to which he received this communication: "Good clean sheet, valued at 3s. 9d. per pound. This is very nice rubber, as good, or better, than the finest Pará rubber. Therefore, when you see the quotations for fine Pará rubber, you may assume that this is the value of your produce. Rubber like yours is readily saleable in any quantity." He strongly advises planting.

NEW TRADE PUBLICATIONS.

WERNER & PFLEIDERER (Saginaw, Michigan) issue a new edition of an illustrated description of their "Patent 'Universal' Masticator," which has come into extensive use in Europe, and more recently in the United States, for kneading and working up India-rubber and Gutta-percha, and incorporating other ingredients. [7 $\frac{5}{8}$ " \times 9 $\frac{7}{8}$ ". 8 pages.]

BOSTON BELTING CO. have issued a new general catalogue of "Mechanical Rubber Goods," which is the most extensive and complete of their publications to date. This book is much more than a mere list of factory products; it is a reference book of value regarding the properties and the proper care of rubber belting, for instance, with specifications to guide the buyer in stating his requirements for any particular use of belting. There is also information of use in regard to hose, packing, and other staple goods, as well as descriptions of the Boston Belting Co.'s products in each line, with prices. Rubber rolls and printers' blankets receive special attention. The catalogue is well illustrated, is printed in colors, and altogether marks a distinct advance over the days when anything in the way of printing was considered good enough for a trade catalogue. An interesting feature is a pictorial contrast between the single small building in which the company's business was begun, 72 years ago, and the extensive establishment in which is now involved \$1,000,000 of paid in capital. [5 $\frac{3}{4}$ " \times 8 $\frac{7}{8}$ ". 164 pages.] —An extra copy of this catalogue, attractively bound in cloth, forms a welcome addition to the office library of THE INDIA RUBBER WORLD.

NEW YORK BELTING AND PACKING CO., LIMITED, issued especially for distribution at the Pan American Exposition a neat brochure devoted to their "Interlocking Rubber Tile." It is illustrated with views of interiors floored with this material. [4 $\frac{3}{8}$ " \times 6 $\frac{1}{4}$ ". 8 pages.] —From the same company comes an illustrated catalogue of "Packings," of which a very full line is described. It is a handsome booklet. [3 $\frac{3}{8}$ " \times 6 $\frac{1}{4}$ " 24 pages.]

B. F. STURTEVANT Co. (Boston) issue, as their Catalogue No. 118, "Steam Hot Blast Apparatus," giving illustrations of various types, and details of construction, with data as to their efficiency. [6 $\frac{5}{8}$ " \times 9". 54 pages.]

FRANZ CLOUTH RHEINISCHE GUMMIWAARENFABRIK (Cologne-Nippes, Germany) send us a price list of India-rubber insulating gloves, for use in electrical work, being their price list No. 19. [6" \times 10". 4 pages.]

W. S. NOTT Co. (Minneapolis, Minnesota), a long established jobbing house, send us their "Catalogue A-z" of mechanical rubber goods and of leather belting, of which latter line they are extensive manufacturers. Rubber goods receive chief attention, however, including such accessories as belt fastenings, hose reels, and the like. The rubber manufacturers whose products are represented are of the highest standing, and the catalogue is a very complete one of its class. It is neatly bound in cloth. [5" \times 7 $\frac{1}{2}$ ". 184 pages.]

ALSO RECEIVED.

CHARLES NUHRING, Cincinnati, Ohio.—Interior Fire Hose Appliances. 16 pp.

Joseph Dixon Crucible Co., Jersey City, New Jersey.—Graphite for Automobiles. 12 pp.

Gorrien's Portable Shower Bath Co., Minneapolis, Minnesota.—Gorrien's Portable Shower Bath. 16 pp.

New Jersey Car Spring and Rubber Co., Jersey City.—Price List. "Wemaka" Perfect Vehicle Tire. 4 pp.

The Gandy Belting Co., Baltimore, Maryland.—The Gandy Belt Price List. 4 pp.

RUBBER NOTES FROM EUROPE.

THE *Gummi-Zeitung*, of Dresden, hears that "a rubber factory is to be installed in Brazil; the founder intends to visit Germany in the near future to order the necessary machinery for the same."

—The Milan (Italy) branch of the Elektrizitäts-Aktiengesellschaft, vorm. W. Lahmeyer & Co. (Frankfort o/M.), has been made a separate stock company, with a capital of 500,000 *lire*, and the former representative in Italy of the Lahmeyer firm, Herr Ad. Egger, has been appointed director of the new company.

—The B. F. Goodrich Co. (Akron, Ohio) are mentioned as having made an interesting display of druggists' sundries, from their London depot, at the Chemists' Exhibition, held August 26-30 at Covent Garden Theater, London. They were the only rubber firm, by the way, making such an exhibit.—Mr. R. M. Howison, formerly managing director of the Goodrich European depot, has returned to the United States, being succeeded by Mr. Arthur E. Lumsden.

—Mr. L. Sgal, long connected with the crude rubber interest and latterly with rubber manufacturing enterprises in Europe, removed some time ago from Liverpool to Vienna, on account of his health. It is understood that the change of climate has been of great benefit to him. He has not lost his liking for the rubber interest, and it is not unlikely that he may again become closely connected with rubber manufacturing.

ONE CONGO RUBBER TRADING COMPANY.

THE Société des Produits Végétaux du Haut Kassai, one of the Belgian companies trading in the Congo Free State, dates from 1894, and have in time come to have a capital of 1,250,000 francs (= \$250,000.) From a recent statement it appears that the amount of Caoutchouc (among other commodities) handled by the company, together with the profits for each year, has been as follows, the year ending May 31:

YEAR.	Caoutchouc.	Profits.
1895-96	77,000 pounds.	123,067 francs.
1896-97.....	123,000 "	263,720 "
1897-98.....	112,200 "	279,737 "
1898-99.....	176,000 "	454,532 "
1899-1900.....	191,400 "	355,859 "

The report of the Société Anonyme Belgika, presented at a meeting of the shareholders at Brussels on July 30, stated that during the year 1900 there had come into their possession, through their operations in the Congo Free State, 242,506 pounds of Caoutchouc.

A QUESTION FOR THE CURIOUS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Which would have the greater elastic property, strength, and durability—ten bands of India-rubber each $\frac{1}{10}$ inch thick, 5 feet long, and 2 inches wide, or one band 1 inch thick, 5 feet long, and 2 inches wide? There would be the same quantity of rubber used in either case.

F. M. T.

THE New England Electric Vehicle Co. (Boston) has declared a dividend of \$2.50 on each share of stock on which \$10 has been paid in, payable August 15. The number of shares outstanding is 225,120, and the amount to be distributed is about \$562,000. By this action of the directors, the company is formally dissolved. This statement does not take account of certain property held by the company which may admit of the payment of a later small dividend.

NEW GERMAN RUBBER TARIFF.

THE German government has published the new tariff schedules which it is proposed to put into effect on January 1, 1904. The bill itself remains to be presented to the Reichstag, and it is likely that many of the provisions may be changed when the matter comes up for debate, but it is not anticipated that the general character of the bill will be changed, since sentiment among manufacturers for increased protection appears to be growing throughout the country. The principal items relating to India-rubber manufactures are as follows, the rates being expressed in the equivalent in United States gold, per 220.46 pounds ("double hundred weight"), under the proposed bill and under the existing tariff:

	Old Rate.	New Rate.
Rubber shoes, not varnished.....	\$ 9.52	\$16.66
Rubber shoes, varnished	14.28	13.80
Rubber solution.....	.71	1.43
Soft rubber paste .....	.71	1.90
Parent rubber plates.....	.71	2.85
Rubber threads, drawn or cut. . . . .	.71	9.52
Rubber threads, covered with cotton	9.52	14.28
Rubber threads, covered with silk.	9.52	17.85
Pneumatic tires, inner tubes.....	9.52	23.80
Pneumatic tires, outer tubes.....	9.52	23.80
Hard rubber, unvulcanized.....	Free	1.90
Hard rubber, dental.....	Free	23.80
Hard rubber, in plates, but not in the form of finished goods	Free	3.57
Hard rubber tubes, not finished.....	Free	10.71
Other hard rubber.....	9.52	10.71
Rubber printers' rollers and blankets.....	a	6.90
Rubber flower stems.....	a	13.80
Rubber belting.....	a	6.90
Other soft rubber goods	a	5.52

[a Not stated in our report.]

Goods of Gutta percha and Balata, not being specified separately, are subject to the same rates as corresponding goods of India-rubber.

RUBBER CONSUMPTION IN RUSSIA.

FROM the same official sources from which THE INDIA RUBBER WORLD has been accustomed to obtain statistics relating to the rubber industry in Russia, figures have been received for the year 1900. It must be said, however, that they do not convey a very clear idea of the situation—particularly the statement of values of crude rubber imports into Russia. Compared with four years preceding, the figures for 1900 show imports:

YEARS.	Pounds.	Value.
In 1896.....	16,200,000	\$4,877,000
In 1897.....	14,572,280	4,707,446
In 1898.....	16,159,360	5,763,944
In 1899.....	11,268,000	7,149,492
In 1900.....	9,432,000	9,641,612

The exportation of Russian manufactures of India-rubber—mainly "galoches"—has been as follows:

	1897.	1898.	1899.	1900.
Galoches	\$1,375,773	\$1,395,839	\$1,291,395	} \$1,673,584
All other.....	71,001	70,647	93,639	
	\$1,446,774	\$1,474,486	\$1,385,034	

The latest figures available do not embrace imports of rubber goods into Russia for 1900. The figures for 1899 were \$451,731.

THE Mexican Mutual Planters' Association (Chicago) inform THE INDIA RUBBER WORLD that a native rubber tree on their plantation at La Junta a short time ago was tapped, yielding in 44 minutes 24¼ pounds of latex, from which was made 9½ pounds of rubber, which is now on exhibition at their Chicago office. The age of the tree was supposed to be about 20 years.

RUBBER SECRETS WILL OUT.

From the Philadelphia North American:

THE Andes Rubber Company, recently incorporated with a capital of \$2,000,000, will build a large rubber factory in Balt ore.

From the Pittsburgh Gazette:

O. S. OVERLIN, a prominent business man of McKeesport, received a letter from the officials of a rubber company, the name of which he refuses to disclose at present, who are seeking a new location. They say that if McKeesport will donate eight acres for a site, where they could purchase four acres more, they would accept it immediately, and guarantee to employ at least 4000 hands, and probably 6000. The company is capitalized at \$2,500,000.

From the Cincinnati Enquirer:

A NEW industry has sprung up within the last few months directly traceable to the advance in the price of rubber. Where old rubber was formerly largely thrown away, or saved and sold for a small price, it is now being saved and collected together by those who know of the existing conditions. The handling of old rubber has now come to be quite an industry, and, as long as they can do so, the dealers are keeping rather quiet about the business, because they see that when people become acquainted with the value of old rubber it will not be as easy to get for nothing.

From the Delaware (Ohio) Gazette:

AFTER a contest of over two years with competing rubber tire companies, William Kiteling, of Marysville, has secured a patent which it is claimed will revolutionize the trade. Kiteling is a blind man and a veteran of the civil war.

From the Manchester (N. H.) Union:

THERE is a woman in town who claims that she is really the originator or the cause of the origination of rubber heels for shoes. This person is Mrs. H. E. Chaffee. Fifteen years ago she was residing in Boston, and her brother-in-law was proprietor of a cobbler's shop. There are many kinds of rubber heels in use to-day, but Mrs. Chaffee claims that the first rubber heel was made for her from an old clothes wringer in her brother-in-law's shop.

EXPORTS OF AMERICAN RUBBER GOODS.

THE values of exports from the United States of goods classed as "manufactures of India-rubber" during the first seven months of 1901, compared with former years, are stated officially as follows:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
Jan-June.....	\$300,095	\$200,267	\$920,334	\$1,420,706
July.....	51,554	91,089	153,488	296,121
Total, 1901	\$351,649	\$291,356	\$1,073,822	\$1,716,827
Same, 1900	317,726	251,525	861,627	1,430,878
Same, 1899	(a) 51,535	126,310	921,942	1,099,787

(a) Not separately reported prior to July 1, 1899. [Exports to Hawaii and Porto Rico not included.]

There were exported in July 248,082 pairs of rubber footwear, against 100,307 pairs in July, 1900, and bringing the total exports for the present calendar year up to 634,339 pairs. Exports of reclaimed rubber, from January 1 to July 31 have been:

	1899.	1900.	1901.
Value	\$326,939	\$329,297	\$213,703

LITERATURE OF INDIA-RUBBER.

KOLONIAL-WIRTSCHAFTLICHES KOMITEE. EXPEDITION NACH Central-und Südamerika. Dr. Paul Preuss. 1899-1900. Berlin: 1901. [Cloth. Svo. pp. xii+452+20 plates. Price 20 marks.]

DR. PAUL PREUSS is the director of the botanic gardens at Victoria, in the German colony of Kamerun in West Africa. In that colony no little attention has been given—induced largely by the efforts of Dr. Preuss—to the introduction of the culture of various economic plants not found native there, including several rubber yielding species. In the very comprehensive and substantial appearing volume before us, Dr. Preuss has outlined his itinerary—beginning at Amsterdam June 1, 1899, and ending in Berlin on July 20 in the following year. Meanwhile he visited Venezuela, Colombia, Ecuador, Trinidad and other West Indian islands, most of the Central American states, and Mexico. He was interested particularly in seeing plantations—or the native growths—of cacao, coffee, vanilla, Peru balsam, and India-rubber. The second part of this volume is a series of chapters each summarizing Dr. Preuss's observations in regard to one of the products above mentioned. The chapter on Caoutchouc yielding plants is devoted largely to the *Castilloa* species, several plantations of which, and the methods employed, are recorded. Dr. Preuss was also much interested, however, in the *Sapium* rubber species of Ecuador and Colombia, and illustrates three of these, including two named by himself. There are in addition to the *Sapium biglandulosum*, of Colombia, which has been known for years as a rubber tree. In another chapter, under the head of Gutta-percha yielding plants, appear notes on Chicle, the "chewing gum" plant; Balata, "Tuno," and other gums, but no real Gutta-percha, of course. In addition to the 20 plates mentioned above, this book contains 78 engravings scattered through the text, of a character most helpful to the reader in understanding the conditions of travel and life and also of tropical planting, is observed by Dr. Preuss.

This work forms a fitting companion volume to one published some time ago by the German Colonial Industrial Committee and noticed in THE INDIA RUBBER WORLD of February, last, Rudolf Schlechter's report on the West African "Kautschuk expedition." There is now in progress a third expedition, in part for the study of rubber planting, through the Far East, also in charge of Herr Schlechter.

STRAJTS SETTLEMENTS.—ANNUAL REPORT ON THE BOTANIC Gardens, for the year 1900, by H. N. Ridley, Esq., Director. Singapore: Government Printing Office. 1901. [Folio. pp. 19.]

THIS report is included among our list of publications on India-Rubber on account of the interesting data which it contains in relation to the experimental planting in the Malay states, of both rubber and Gutta-percha.

THERE has been established at Caracas, Venezuela, a monthly periodical entitled the *Boletín de Agricultura y Cría* [Agriculture and Breeding], being the organ of the Superior Council of Agriculture. It is conducted by Francisco de P. Alamo. Each of the four numbers which have reached this office contains notes on "caucho" or "goma elastica," though none of them happen to relate to rubber in Venezuela.

IN CURRENT PERIODICALS.

NOTICIAS acerca de plantas que dan Caucho. [From "As Heveas ou seringueiras," by the director of the botanical garden at Rio de Janeiro.]=*Boletín de Agricultura y Cría*, Caracas. 1-4 (April, 1901) pp. 42-46.

Electric Cable Making in Great Britain and on the Continent =*Casier's Magazine*, New York. XXI-3 (July, 1901). pp. 194-208.

Die Kautschukproduktion Afrikas. By Dr. E. Friedrich. [With map.] *Deutscher Geographischer Blätter*. XXIV-2 (1901). pp. 9-15.

Bons et Mauvais "Castilloa." [Discussion of recent pamphlet by Th. F. Koschny, of Costa Rica.]=*Journal d'Agriculture Tropicale*, Paris. 1-1 (July 31, 1901). pp. 17-20.

Reisebericht der Guttapercha- und Kautschuk-Expedition nach den Südsee-Kolonien. By R. Schlechter. [Relates mainly to rubber plantations in Sumatra]=*Der Tropenpflanzer*, Berlin. V-8 (August, 1901). pp. 372-382.

Les Plantes à Caoutchouc au Jardin d'Essai de Conakry [French Guiana.] By M. Tessonier.=*Revue des Cultures Coloniales*, Paris. IX 84 (September 5, 1901.) pp. 132-136.

Visite à une Usine Installée pour le Traitement Mécanique des Écorces à Caoutchouc. By M. Arnaud.=*Revue des Cultures Coloniales*, Paris. 1x-84 (September 5, 1901) pp. 136 139.

Über die Stamm-pflanze des Donde Kautschucks und ihre Praktische Bedeutung. By Dr. Walter Busse. [A report to the government of German East Africa, on the importance of a new rubber species, discovered in Donde land, and designated by Dr. Busse as *Landolphia Dondeensis*; with plate]=*Der Tropenpflanzer*, Berlin. V-9 (September, 1901.) pp. 403 410.

A propos du *Castilloa Tunu* (Hemsley) et d'autres *Castilloa* nouveaux. By Eugene Poisson.=*Journal d'Agriculture Tropicale*, Paris. 1-2 (August 31, 1901.) pp. 35-37.

Pourquoi les *Ficus elastica* d'Alger ne donnent pas de Cautchouc? [Correspondence of J. Vilbouchevitch and Charles Rivière]=*Journal d'Agriculture Tropicale*, Paris. 1-2 (August 31, 1901.) pp. 37-40.

MINERAL RUBBER IN BRAKE SHOES.

A NEW and interesting application of Mineral Rubber is mentioned in connection with the cast iron brake shoe such as is used for either steam or electrical railroads. It will be noted that the face of the shoe is recessed, the cavities being filled with a mixture of Mineral Rubber and iron filings. This more than doubles the life of the shoe, and almost entirely does away with the wear on the tread of the wheel. There is also a marvelous increase in braking power. The wisest way, perhaps, to illustrate this is to quote a few tests made on one of the largest railway systems in the United States. *ENGINE NO. 562—Equipped with A. & M. Driver Brake Shoes, October 21, 1900:*

	Removed.	No. days Service.	Regular Shoe Average No. Days.
Right front	Nov. 25	35	14
Right back	Nov. 11	21	7
Left front.....	Nov. 25	35	14
Left back.....	Nov. 18	28	7
Total days service....		119	42
Average days per shoe....		30	10½

ENGINE TANK NO. 562—Equipped with A & M. Brake Shoes, October 21, 1900:

	Removed.	Days' Service.	
Two shoes.....	Nov. 15	25	Average service ordinary shoe, 14 days.
One shoe.....	Nov. 18	28	
One shoe.....	Nov. 25	35	
Total days service		88	
Average days service....		28	

ENGINE NO. 546—Equipped with A. & M. Driver Brake Shoes, October 22, 1900:

	Removed.	No. Days Service.	Their Shoe Average.
Right front.....	Nov. 22	31	14 days.
Right back.....	Nov. 19	28	4
Left front.....	Nov. 22	31	14
Left back.....	Oct. 28 (lost)	6	4
Total days service.....		96	36
Average days service.....		30	9

The brake shoe, by the way, is manufactured by the Allen & Morrison Brake Shoe and Manufacturing Co., No. 604 Fisher building, Chicago.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED AUGUST, 1901.

No. 679,784. Exercising machine. Michael B. Ryan, London, England.

680,086. Machine for manufacturing rubber articles. Frank H. Turner, Hartford, Connecticut.

ISSUED AUGUST 13, 1901.

680,266. Process of preparing rubber adulterant. William V. McManus, New York city.

680,332. Pneumatic tire and method of attaching. William Kightlinger, Marysville, Ohio.

680,387. Rubber cement. Leslie R. Moore, Newton, Massachusetts.

680,392. Means for securing resilient tires to vehicle wheels. Harry A. Palmer, Erie, Pennsylvania.

680,420. Composition for closing punctures in pneumatic tires. William H. Simmons, San José, California, assignor of one-half to Harlow J. Ayres, same place.

680,426. Substitute for India-rubber or Gutta percha. Adam Cairns, Glasgow, Scotland.

680,556. Exerciser. Henry W. Wieland, London, England, assignor to John Charles Wray, Lambeth, England.

680,654. Rubber gearing. George W. Gomber, Conyngham, Pennsylvania, assignor, by mesne assignments, to American Multiplex Talking Machine Co.

ISSUED AUGUST 20, 1901.

680,776. Pneumatic tire. William E. Hoyle, Providence, Rhode Island, assignor to Rudolph F. Morse and Samuel H. Boardman, same place.

680,870. Device for attaching rubber washers to bottle stoppers. Frederick Leu, College Point, New York, assignor to Max C. Rosenfeld, Boston.

681,151. Tire. Frank Theodore, Greenville, South Carolina.

ISSUED AUGUST 27, 1901.

681,310. Vehicle tire. John Glenn, St. Louis, Missouri.

681,411. Soft tread horseshoe. Charles P. Dryden, Chicago, assignor of one-half to George B. Dryden, same place.

681,464. Horseshoe. George L. Warner, New York city.

681,544. Horseshoe. Michael Hallanan, New York city.

681,619. Means for securing tires to wheels of road vehicles. Arthur T. Collier, St. Albans, England, assignor of one-half to Edgar Oliver Goss, London.

DESIGN PATENTS.

34,932. Pneumatic tire. Isaac S. McGiehan, New York city. August 13, 1901.

34,974. Carriage tire and rim. Woodburn Langmuir, New York city. August 27, 1901.

34,982. Cushion. Christian William Meinecke, Jersey City, New Jersey, assignor to Meinecke & Co., New York. August 27, 1901.

TRADE MARKS.

36,949. Rubber packing, tubing and hose. The Combination Rubber and Belting Co., New York, and Bloomfield, New Jersey. August 27, 1901.

ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

14,860. Charles John Bailey, 55, Chancery lane, London. Water bags. July 22.

14,870. William Robertson, Bethnal Green road, London. Air tubes for tires. July 22.

14,910. Arthur Guy Ellis, 18, Southampton buildings, Chancery lane, London. Tires for cycles and vehicles. July 22.

15,025. Henry Douglas Earl, Manchester. Pneumatic tires. July 24.

15,058. James Edgar Baxter and The Leyland and Birmingham Rubber Co., Limited, 111, Hatton garden, London. Seamless rubber balls. July 24.

15,224. Henry Arkell, 40, Lindore road, Battersea Rise, London. Elastic tires and metal rims of wheels for vehicles. July 27.

15,240. Charles Cunningham Black, Shettleston, Lanarkshire. Machines for stamping, pressing, or moulding metals, Gutta percha, India rubber, and the like. July 27.

15,252. Vincent Willis, 9, Rochester terrace, Camden Town, London.

Tools for removing or replacing the covers of pneumatic tires. July 27.

15,380. Allison Arthur Sim, Liverpool. Appliances for pneumatic tires. July 30.

15,639. George Franklyn. Pneumatic tires. August 2.

15,700. James Mitchell, Merrow, Guildford. Tire puncture proof shield. August 3.

15,735. Herbert Allard Stonard and Horatio Sheaf, 5, Hatton garden, London. Means for attaching elastic tires to wheels. August 3.

15,967. Frederick William Schroeder, 9, Arundel street, Strand, London. Pneumatic tires for vehicles. August 8.

16,021. Albert Claudius Sievers, Kensington, London. The Sievers rubber and steel rim tire. August 9.

16,050. Jonathan Aldous Mays, Walter William Roff, and William Henry Roff, 75, Chancery lane, London. Pneumatic tires. August 9.

16,073. George Newell Milward and George Frederick Newman, Birmingham. Pneumatic tyres. August 10.

16,238. Nathaniel Greening and Edward Sherlock. Pneumatic tires. August 13.

16,439. Alexander Bodenheimer, 111, Hatton garden, London. Pneumatic tires. August 15.

16,442. Frederick Charles Lohden and Arthur Betjemann, 10, Great Saint Helen's, London. Improvements in overcoats, waterproof coats and mackintoshes. August 16.

16,485. Henry George Frasi, Birmingham. Elastic tires. August 16.

16,505. Morten Olsen, 36, Chancery lane, London. Waterproof composition for leather, rubber and other materials. August 16.

PATENTS GRANTED.—APPLICATIONS OF 1900.

6719 Rubber tire. Grant, T., Brighton, Sussex. April 10, 1901.

6917. Horseshoe pads. Deitz, E., 56, rue d'Aboukir, Paris. April 12, 1901.

6919. Exercisers. Korth, J. C., and Ganzenmuller, A., No. 215 Bowery, New York, United States. April 12, 1901.

6943-6944. Rubber type. Duncan, J. S., No. 173 South Canalstreet, Chicago, United States April 12, 1901.

6959. Method of attaching pneumatic tires. Bryan-Haymes, R., Thornfield, Kingsbridge, Devonshire. April 12, 1901.

6972. India-rubber substitutes. Prampolini, W., San Luis Potosi, Mexico. April 14, 1901.

7124. Solid rubber tire and method of attaching. Keyes, H. W., 403 Decatur street, Brooklyn, United States. April 17, 1901.

7413-7414. Method of attaching wired on rubber tires. Wise, W. L., 46, Lincoln's Inn fields, London. [Calumet Tire Rubber Co., Chicago, United States.] April 21, 1901.

7483. Tire protector. Bowyer-Smyth, D. M., Twineham Court, Sussex. April 23, 1901.

7507. Pneumatic tire. Tanghe, H., 171, Avenue de Neuilly, Seine, France. (Date applied for under Sec. 103 of Patents Act, 1883, December 9, 1899.) April 23, 1901.

7521. Pneumatic tire. Fiedler, H., Dohren, Germany. April 24, 1901.

7631. Vulcanizing India-rubber balls, etc. Doughty, H. J., Providence, Rhode Island, United States. April 25, 1901.

7975. Pneumatic tires. Williams, W. F., 17, Great Pulteney street, Golden Square, London. April 30, 1901.

8054. Tire protector. Lunant, J., 218, Avenue de Saxe, Lyons, France. May 1, 1901.

8172. Pneumatic tire. Merington, C., Norwood, Surrey. May 3, 1901.

RUBBER POUCHES FOR QUININE.—Many Americans and Englishmen living in Mexico are constant users of quinine, says the New Orleans *Times-Democrat*. "They generally keep the stuff in rubber tobacco pouches, to protect it from perspiration, and when they feel like taking a dose they dig in with one of those spatulated knives that they all carry and swallow as much as they see fit."

WILLIAM ALLEN WHITE, a Kansas editor who is much quoted, in illustrating the prosperity of his state, remarks: "Automobiles run on the streets of Emporia. Rubber-tired buggies are the rule rather than the exception for the farmer boy to ride in with his best girl on a Sunday afternoon."



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Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means “Carbon” grade—a good article; a double diamond means “Double Diamond” grade—a fine article; a triple diamond means “1846 Para” grade—a splendid article and the best we can make. Our brands on hose, belting, packing

<p><i>Belting, Garden Hose, Water Hose, Fire Hose, Suction Hose, Steam Hose, Air Hose, Tubing, Rod Packing,</i></p>	<p>and other rubber goods are guarantees of high quality and long service.</p> <p>Chicago,150 Lake St. St. Louis,411 No. Third St. San Francisco, 509 Market St. Boston,24 Summer St. Philadelphia, 724 Chestnut St.</p>	<p><i>C. I. Packing, Ruby Packing, Gaskets, Valves, Rubber Tiling, Rubber Matting, Emery Wheels, Specialties, Vehicle Tires.</i></p>
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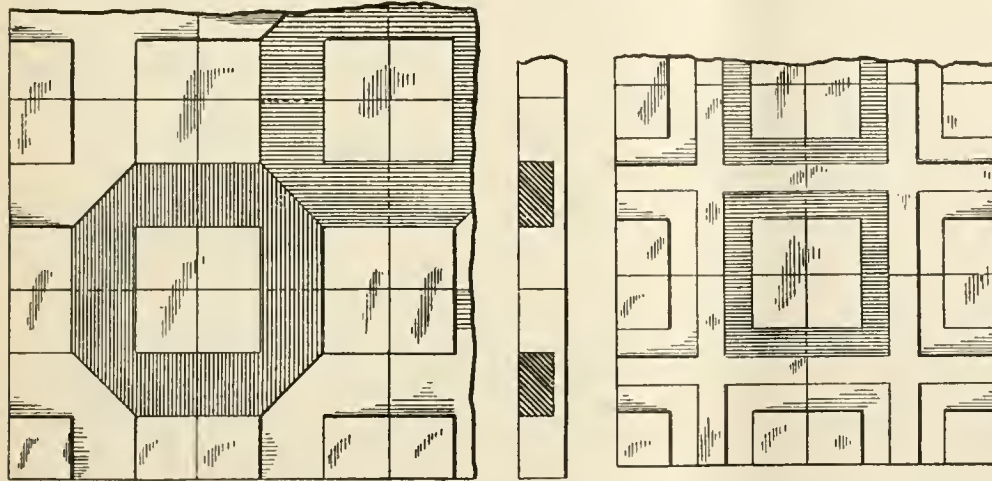
. . . . CLEVELAND, OHIO.

NEW GOODS AND SPECIALTIES IN RUBBER.

RUBBER FLOOR TILE.

A PATENT has been granted to George H. Bennett, of New York, for a novel construction in rubber floor tiles. In brief, the new system consists of a series of tiles, completely covering the floor, each tile having portions cut away from the top, to form channels or recesses having vertical walls. Locking pieces or tiles are provided to

jury, as from a jagged copper wire, etc. In addition, they should be easy to wear and allow full movement of the fingers while working. A prize of 1000 francs was offered, and after a comparison of a number of samples, it was awarded to Franz Clouth, Rheinische Gummiwaarenfabrik, G. m. b. H., of Cologne, Germany. The prize glove is seamless, with a perfectly smooth surface, and no joint or projecting edge or border.



fit into these recesses and fill the spaces between their surface portions and to engage such base tiles to secure them together laterally. It is intended that the inlaid rubber sections shall be of a different color from the base tiles, in order that a mosaic effect may be produced. In the figures presented herewith, selected from the drawings filed at the patent office, are shown two designs—one in which the inlaid tiles are octagonal in shape and one square. In each case there appears in the open space in the center of such inlaid tile a view of one corner of each of four base tiles, illustrating the manner in which the base tiles are locked together. In the sectional piece appearing between the other two cuts is indicated the depth to which the base tiles are channeled for the reception of the interlocking rings or squares. It may be added that this system is capable of a great variety of designs, and is not confined to the two which are illustrated on this page. The inlaid tiles may be of any color which can be given to rubber, and it is anticipated by the inventor that the system will find favor by reason of the variety of ornamental designs possible to be obtained. Special border designs may be produced, forming a contrast, either in color or figure, to the center of the floor covering. Other advantages claimed are that this new tile is impervious to water and that, in case of injury to any section, it may be removed readily for the substitution of new pieces. It is understood that the inventor is open to consider propositions from manufacturers.

They are lined with a solid double texture, to allow of free perspiration. The thick layer of rubber used resists a current of 10,000 volts. The gloves are made with and without separate fingers, and with gauntlets of varying lengths, or without gauntlets. The price of Size No. 3, of best Pará rubber, Jersey lined, without gauntlets, is quoted in England at 12s. 6d (= \$3) per pair. With gauntlets 18 inches long, 21s. 3d., and there are intermediate prices, including lower rates for unlined gloves. A special catalogue of these gloves is issued by the Cologne firm.

GORRIEN'S PORTABLE SHOWER BATH.

OF the two accompanying illustrations, one shows the complete article described in the above heading, and the other how it is used. The idea of a rubber ring shower bath attachment, to be used in this manner is not new; the novelty in this case,



INDIA-RUBBER INSULATING GLOVES.

TOWARD the end of last year the Association of French Manufacturers for Prevention of Accidents in Factories invited an international competition for the best insulating gloves, to be used by workmen in electrical works and stations. Such gloves were not only to be an effective protection for the hands and the lower part of the arms, but also to be so strong that they would resist an electric current and prevent any accidental in-

jury, however, consists in the attachment of the spray ring to a water bag, the nature of which combination is fully shown in the engravings. In order that the device may be of the utmost possible value in the household, the whole is so constructed that the spray ring may be detached, and replaced with any of the several pipes also shown in the larger picture. Or, all the

attachments may be removed, and the bag used for a hot water bottle. The utility of this bathing arrangement is expected to appeal especially to persons traveling, and thereby liable to find themselves without convenient bathing facilities. But it has many advantages even at home, one of which is that with its aid ladies can take a shower bath without disarranging or wetting the hair. [Gorrien's Portable Shower Bath Co., Minneapolis, Minnesota.]

OBITUARY NOTES.

JAMES FREEMAN BROWN, of New York, the sad news of whose death was recently reported in the daily papers, was a gentleman well known to the rubber trade. For many years he had handled fabrics very largely and was known as a conservative and successful business man. Personally, he was a man of unimpeachable integrity and of singular uprightness in everything. He was related by marriage to Mr. George A. Alden, of Boston. Mr. Brown was 38 years old and a native of Brookline, Mass. He was a member of the Calumet and Merchants' clubs of New York.

=Mr. Chauncey Howard White, a director in the Seamless Rubber Co. (New Haven, Conn.), aged 45, died suddenly August 25, at a summer resort near Waterbury, Connecticut.

=Mr. Chauncey M. Warren, of Bridgeport, Connecticut, died at Middletown on August 31. He was long prominent in business and political affairs in Connecticut, and for ten years was confidential agent and secretary for Ratcliff Hicks, of the Canfield Rubber Co. For several years past, however, he had been incapacitated for business by ill health.

=The many friends of Mr. Fred. E. Ranney, of the Akron Commercial Co. (Akron, Ohio), will sympathize with him in his recent bereavement, in the death of his wife, which occurred September 8. Mrs. Ranney had been an invalid for eighteen years past. Just prior to her death she had gone to a hospital for special care, and it appeared that she might recover. Her death was sudden and came as a great shock to her husband and friends.

THE Business Men's Club of Memphis, Tennessee, met on September 17 and passed resolutions of regret and sympathy at the death of President McKinley, which were ordered to be engrossed and bound in black morocco and sent to Mrs. McKinley. It was the Business Men's Club that invited Mr. and Mrs. McKinley to Memphis last May and entertained them while there. Mr. H. N. Towner, the senior member of the rubber jobbing firm of Towner & Co., and secretary of the club, was one of the committee which prepared the resolutions.

NEW CABLE INJURED.—A press dispatch from Port Townsend, Washington, dated September 25, says: "The passengers returning on the steamer *Oregon* report that the cable between St. Michael and Cape Nome is a failure. In several places the ice has cut the cable. It has been ascertained that there are nine breaks. The gap was supplied with a new cable, but it has been so badly damaged as to be practically worthless."

"CAOUTCHOUC" BECOMES SLANG.—Speaking of rubber, an American in Montreal recently couldn't at first imagine what the people up there meant by saying "caoutchouc" on every possible occasion. They at length explained to him that it was French-Canadian for "rubberneck." The American admitted that it was the neatest of translations; quite in line with the Boston infant prodigy who can say "rubberneck" in seven different languages.—*New York Evening Sun*.

RUBBER SHOES INDISPENSABLE.—"The maker of fine shoes will probably tell you," said a shoe dealer, "that rubber overshoes have gone out of style, and that no well-dressed man or woman wears them nowadays. Well, from his point of view the man is right. His customers have substituted extra heavy and cork-soled shoes, and inasmuch as the people do not tramp about the streets much in rain, snow, and slush, the heavy shoes are a good substitute. Even the people who tramp over a golf course in bad weather rarely think of wearing rubber shoes, and many who would like to do so fear that their friends would ridicule them if they did, and so get their feet damp and grin and bear it. These people all have many pairs of shoes at home, and can well afford to sneer at the people who wear 'gums.' But the general public has only one pair of shoes apiece, and that pair must be kept dry; and for that reason more rubber shoes are sold now than ever before, although shoes are made heavier than ever, and the demand for 'water-proof' goods is increasing every day."—*St. Louis Star*.

SPECIMENS of crude rubber from Mexico are shown at the Pan American Exposition, at Buffalo, in the exhibit by that republic in the forestry building, by the following:

Barron Forbes & Cia., Tepic, state of Tepic.

I. Camacho, Las Conchas, Chiapas.

Government of Chiapas, Tuxtla-Gutierrez, Chiapas.

Government of Tabasco, San Juan Bautista, Tabasco.

Ramos Hermanos, City of Mexico.

L. Robles, Sinacomitlan, Colima.

Several of these exhibitors, and also others, display specimens of Chicle.

ECUADOR exported, during 1900, 1,103,511 pounds of India-rubber, valued at 1,076,068 sucres (=about \$460,000, gold). These figures are larger than the average for a good many years past. The exports from Guayaquil in 1876 reached 1,013,000 pounds, after which there was a heavy falling off, only 380,300 pounds having been exported in 1893. A recent visitor to THE INDIA RUBBER WORLD offices is about to begin, in company with some other Americans, the planting of *Castilloa elastica* rubber near Guayaquil.

THE rubber hand stamp trade of Westfield, Massachusetts, has been "put on its feet," according to the *Huntington Herald*. "For many years back the rubber stamp trade in town has been handled in an indefinite sort of way by persons having no headquarters, and consequently hard to find." But now rubber stamps are made there boldly, and without any attempt at concealment, and the stamp makers are not lynched.

THE estate of the late William Erskine Bartlett, managing director of the North British Rubber Co. (Edinburgh, Scotland), amounted to £51,795 (= \$258,975). Mr. Bartlett was a native of Massachusetts, and remained a citizen of the United States throughout his life.

THE directors of the Vereinigte Gummi-Waaren-Fabriken, Harburg-Vienna, will recommend, at the meeting of the company on October 26, a dividend for the year of 20 per cent., against 17½ per cent. last year and 12 per cent. the year before.

A NEW edition of the New England Rubber Club's list of officers and members has been issued, giving the names and addresses and business connections of 116 members.

AT public auction in New York on September 25, there were sold 1609 shares of stock in the Manãos (Brazil) Railway Co., for \$1609 for the lot.

NEWS OF THE AMERICAN RUBBER TRADE.

RUBBER GOODS MANUFACTURING CO.

THE directors at a meeting in New York on Sept. 5, declared the regular quarterly dividend (No. 10) of $1\frac{3}{4}$ per cent. on the preferred stock, out of the earnings, payable Sept. 16 to shareholders of record on Sept. 7. After the meeting a statement was made to the press representatives, reporting this action, and adding: "The common stock dividend will come up in the regular course at the meeting of the directors the first week in October." It had generally been expected that a common stock dividend would be declared at the September meeting. Dividends at the rate of 7 per cent. per year have been paid on the preferred stock regularly since June 15, 1899. The first common stock dividend, of 1 per cent. was paid July 16, 1900, and dividends at the same rate declared quarterly up to and including that paid on July 15, 1901.

RECLAIMING WORKS AT BURLINGTON.

THE New Century Rubber Co., the incorporation of which has already been mentioned in THE INDIA RUBBER WORLD, appear this month as advertisers, and are now in an excellent position to fill orders of any size. The company manufacture reclaimed rubber by a new and secret process, their claim being that their goods are absolutely free from ingredients that are in any way harmful to the manufacture of rubber goods, and that their rubber is superior in quality and texture to ordinary reclaimed stock. The company in order to introduce their goods are willing to send sample lots for trial to any manufacturer without charge. The offices of the company are in the Drexel building, Philadelphia, the works being at Burlington, New Jersey. The company's officers are: W. E. Sharps, president; J. J. Mulconroy, vice-president; and C. W. Gouert, secretary and treasurer.

GUARANTEE RUBBER CO. (AKRON, OHIO)

THIS company succeeds the Betzler & Wilson Rubber Co., manufacturers of soft rubber specialties and also of the Betzler & Wilson fountain pens. The officers of the new company, which is not a corporation, are: *Oakley C. Herrick*, formerly of the Herrick & Sons Co., of Akron, president and treasurer; *T. M. Gregory*, for nineteen years with the Akron Rubber Works, secretary and manager; *R. T. Griffith*, for nine years with the Akron Rubber Works, vice-president and assistant manager. A new factory has been equipped by the company, in South street, in which work was begun during the last month. They will manufacture soft rubber goods, including druggists' sundries.

RUBBER SCRAP IN SWEDEN AND NORWAY.

THE INDIA RUBBER WORLD has received an inquiry, through an official channel, from Sweden and Norway, for information regarding the market for rubber scrap, particularly old shoes. There are four rubber shoe factories in the countries named, and doubtless a considerable amount of scrap will ultimately be collected there. Germany last year imported over 500 tons of such material from Sweden and Norway, and now an outlet is sought in this country.

HARTFORD RUBBER WORKS EXTENSION.

THIS company has purchased a tract of land, opposite its plant on Bartholomew avenue, Hartford, having a frontage of 785 feet on the avenue, 400 feet on Park street, and about 1000 feet on Park river. It is understood to be the purpose of the

company to erect on the property a substantial addition to its plant. An old residence on the property has been under lease for some years by the company for a tire repair shop.

HARTFORD RUBBER WORKS CONFERENCE.

THE annual conference of branch house managers and salesmen of the Hartford Rubber Works Co. with the officers of the company was held in Hartford during the last week in August, ending with a dinner at Lake Compounce on the afternoon of August 29. The managers in attendance were:

E. R. Benson, Boston.	D. L. Scoville, Washington.
W. B. Fewell, Philadelphia.	F. P. Hoy, Minneapolis.
E. H. Brandt, New York.	M. J. Tansey, San Francisco.
A. H. Scoville, Cleveland.	F. H. Ayers, New York uptown.
E. E. McMaster, Detroit.	B. Brandt, Denver.
James How, Buffalo.	P. B. Kavanaugh, Chicago.

Twenty salesmen were present. J. C. Wilson, who lately resigned as secretary of the company to become connected with the Seamless Rubber Co. (New Haven), was also present at the dinner, during which he was the recipient of a handsome gold watch and chain from his friends in the company officers and employes.

RUBBER BELTING FOR AN ELEVATOR.

THE contract for equipment of the new Grand Trunk grain elevator, at Portland, Maine, with capacity of 1,500,000 bushels, embraces the following items of rubber belting:

14 each	375' long	22" wide	5 ply	32 oz.	duck,
7 "	107' "	30' "	5 "	30 "	"
2 "	592' "	36' "	4 "	32 "	"

—and one belt each of these lengths, all 36" wide, 4 ply, 32 oz. duck:

552'	578'	353'	376'	596'	1122'	1130'	1152'	1245'
------	------	------	------	------	-------	-------	-------	-------

The total length is 12,287 feet, or about $2\frac{2}{3}$ miles. The superficial area is 30,271 $\frac{1}{2}$ feet. These details are supplied by the John S. Metcalf Co. (Chicago), engineers for the construction of the elevator.

STANDARD RUBBER AND OILCLOTH CO.

THIS new company, now operating the plant of the old Standard Rubber Co. (Campello, Mass.) purpose making a line of oilskin coats, for motormen, conductors, fishermen, and others who are obliged to work out of doors, regardless of the weather.

A NEW HARD RUBBER PLANT.

THE Joseph Stokes Rubber Co. (Trenton, N. J.), after some months of preparation and the installation of up-to-date machinery, are now prepared to manufacture a full line of hard rubber, with the exception, perhaps, of combs. Their vulcanite department is under the supervision of an expert and the goods already turned out are of the best grade.

THEFT OF CRUDE RUBBER.

RECENTLY some crude rubber was offered for sale to Reimers & Co., importers, at No. 67 Pine street, New York, which appeared to Mr. Reimers very much like some rubber which he had acquired through the ordinary channels of trade, and should then be lying in a bonded warehouse in Brooklyn. Mr. Reimers called upon the proprietor of the warehouse, and found a considerable quantity of rubber missing, whereupon detectives were called in, and several arrests were made, of truckmen and junkmen. The warehouse had been entered through a courtyard in the rear, and rubber removed to the estimated value of \$9600. The prisoners were held in \$2000 bail each.

PENNSYLVANIA RUBBER CO.

THIS company is planning an important extension of its factory (at Erie, Pennsylvania), involving additional buildings and an important increase in the equipment of machinery. It is reported that the Farrel Foundry and Machine Co. are constructing for the company the largest belt press ever made.—Mr. John W. Teller has joined the Pennsylvania Rubber Co. as their sales manager, for the mechanical goods department, with headquarters at No. 127 Duane street, New York. Mr. Teller became connected with the rubber trade fourteen years ago, and when Messrs. Hardy and Miller went from Boston to Akron, Ohio, to take charge of the Diamond Rubber Co., he accompanied them. Later he had charge of the company's sales in New York and in time became secretary and treasurer of the Diamond Belting and Packing Co., which position he resigns to form the new connection noted above.

TO BUILD A PACIFIC CABLE.

THE Commercial Pacific Cable Co. was incorporated under New York laws, on September 23, with a preliminary capitalization of \$100,000. The incorporation papers state that the company is to connect New York city with San Francisco by its own or other telegraph lines, thence to run from California under the Pacific Ocean to Hawaii, the Philippines and other Pacific islands. The directors are John W. Mackay, of Virginia City; Clarence Mackay, of Roslyn; George G. Ward, Albert Beck and William W. Cook, of New York city, and Albert B. Chandler and Edward C. Platt, of Brooklyn. It is stated that the company intends to have a cable at work between California and the Hawaiian islands—a distance of 2200 miles—within nine months. Application has been made for landing rights in California, Hawaii, and the Philippines. The new company does not ask any subsidy or any guaranty, hence the reason for believing there will be no trouble in agreeing with the government on the terms and conditions upon which the cable will be landed. The plan is to connect, at Manila, with the cable system now working between that port and China and Japan.

THE B. F. STURTEVANT CO. (BOSTON.)

THIS company has upon the press a very complete catalogue of its motors, generators, and generating sets. Previous publications have been in the form of bulletins descriptive of special types. This catalogue will present them all, and will in some degree reveal the fact that although the Sturtevant company has a world wide reputation as blower manufacturers, its business is by no means limited to the production of these useful machines, but that it is also equipped with a more complete line of engine and motor designs in small and medium sizes, than any other concern in the country.

CANADIAN RUBBER SHOE JOBBERS.

THE Montreal members of the Rubber Boot and Shoe Jobbers' Association recently tendered a dinner to the jobbers who were in the city at the time, visiting the factories with a view to placing their orders for the winter. The *Shoe and Leather Journal* reports the affair to have been so successful that it is now proposed to make it an annual feature.

PEQUANOC RUBBER CO. (BUTLER, N. J.)

THIS new company, the incorporation of which, with \$60,000 capital, was reported in our issue for July 1, are getting their new reclaiming factory in good shape and expect to submit samples of their new product to the trade towards the middle or last of October, and promise to make a formal announcement of the opening of their new business in a few weeks. They promise the most reliable grades of reclaimed rubber in the market.

AN AMERICAN CONCERN IN ENGLAND.

A WRITER in the London *India-Rubber Journal* says: "I have had a number of inquiries respecting the North-Western Rubber Co., Limited, of Litherland, Liverpool, and understand that this is an American company who have secured the land, and are building large works close to the canal at Seaforth. The intentions of the directors are not at present disclosed, but I learn that their first object is the manufacture of reclaimed rubber on a new process, whereby all trace of sulphur is removed."—The incorporation of the company referred to was recorded in THE INDIA RUBBER WORLD of June 1 last [page 278.]

UNITED STATES RUBBER CO.

DURING the past month a circular letter to jobbers was issued by this company, announcing that the contract system now in force will be continued to January 1, 1903, and that "a policy of low prices" will also be continued. The circular also announces a slightly lower rate of discounts to jobbers, beginning January 1, next.

NEW INCORPORATIONS.

THE Ball Manufacturing Co. (Camden, N. J.), August 22, under New Jersey laws, to make rubber goods; capital, \$25,000, of which \$1000 paid in.

=The American Rubber Works Co., September 10, under New Jersey laws; capital, \$1,000,000. Incorporators: G. N. Huntington, I. S. McGrehan and John W. Wilcox—registered addresses, East Orange, New Jersey, in the office of the New Jersey Registration and Trust Co. The object is to purchase and own patents for tires and to manufacture the same.

=Woven Wire Rubber Horseshoe Co., September 1, under Iowa laws, to manufacture a new horseshoe of wire and rubber, invented by Charles Olson; capital, \$100,000. Incorporators: H. E. Jones, J. T. Hume, E. E. Shirk, Miles Sprague.

TRADE NEWS NOTES.

THE United States Rubber Reclaiming Works, owing to pressure of business, will either add to their factory equipment by installing a new plant at some convenient point, or will add to the present plants at Shelton, Connecticut, and Jersey City, New Jersey.

=Mr. Robert B. Baird has established himself as a broker in crude India-rubber, his New York office being No. 253 Broadway, and his Boston office No. 161 Summer street.

=The Hodgman Rubber Co. (New York) are distributing an illustrated folder, showing some new styles of their "Alexombric" storm coats, which is an artistic bit of advertising, apart from the fact that the styles shown are uncommonly attractive.

=The Seamless Rubber Co. (New Haven) have filed with the secretary of state of Connecticut a notice of an increase of capital stock from \$130,000 to not exceeding \$250,000.

=The Maple Leaf Rubber Co., Limited, rubber shoe manufacturers, of Toronto, Ontario, have increased their capital from \$250,000 to \$350,000.

=Work was resumed in the "Alice" mill of the Woonsocket Rubber Co. on September 16, after a shutdown dating from August 3. Work was resumed in the shoe department of the National India Rubber Co. on September 23, after a shutdown dating from the same period.

PERSONAL MENTION.

DR. CHARLES MCBURNEY, of New York, who was one of the physicians in attendance upon President McKinley at Buffalo, is a son of the late Charles McBurney, one of the early proprietors of the Boston Belting Co. He is one of the most eminent of American surgeons and his reputation is world wide.

=Mr. Thomas Knight, traveling representative for L'Horti-

cale Coloniale, of Brussels—one of the great horticultural establishments of the world, and one which is contributing in an important degree to the development of the rubber planting interest—has favored THE INDIA RUBBER WORLD recently with a call.

=The name of Mr. Charles R. Flint having been suggested, through the newspapers, as that of a suitable candidate for mayor of New York, to head the movement to reform the city government, that gentleman wrote to the committee of citizens having in charge the choice of a candidate that his business interests were of such a nature that he could not undertake the cares of public office.

=The Editor of THE INDIA RUBBER WORLD is constrained to apologize for the picture of Treasurer G. P. Whitmore, of the New England Rubber Club, which appeared in the September issue of the paper. Personally, Mr. Whitmore is one of the most genial men alive, and the amount of detail work that he has done in connection with the Club is marvelous. The photograph, however, has pictured him as a serious individual, with a suggestion of pugnacious intolerance. Whether this was due to the sun, the photographer, or the repentant mood that follows successful dinners, it is impossible to state, but at all events, the photograph was not a likeness.

=Mr. H. C. Burton, of Parker, Stearns & Sutton, New York, has gone to Europe and will probably remain away for some

two months, Mr. Burton, always an exceedingly conscientious man, has allowed himself to overwork and the powers that be in the company have, with kindly insistence, decided that he take a vacation where no news of the factory and office can reach him.

=Mr. Louis M. L. Gielis, director of the Cie. Commerciale des Colonies (Société Anonyme), of Antwerp, while on a visit recently to the United States in the interests of his company—who, by the way, are interested in the exploitation of rubber in Africa and Brazil—was a visitor to the offices of THE INDIA RUBBER WORLD.

=Mr. A. G. Morganstern, formerly of the firm of Lowenthal & Morganstern, and for some years past a resident of Europe, is now visiting in the United States. Mr. Morganstern, by the way, since he retired from business, has become a tennis expert of note. He is acting secretary of the Nice Lawn Tennis Club and one of the best players in Europe.

=Herr Kuhlemann, manager of Oesterrichisch-Amerikanische Gummifabrik, of Vienna, one of the largest continental rubber factories, who planned to be in the United States this fall, advises THE INDIA RUBBER WORLD that pressure of business makes it impossible for him to reach the States before the early spring.

=Baron H. Arnous de Rivière, of Beni Gum Co. fame, is again in Bolivia, trying to develop some rubber interests there.

REVIEW OF THE CRUDE RUBBER MARKET.

THE general tendency of prices during the past month has been slightly downward, ending in a level 2 or 3 points lower than in our last report, with a smaller decline in some others. Pará rubber has been arriving in the primary markets at a very good rate, but the principal receipts so far this season have resulted from last season's collections. Hence, it is too early to determine the effect upon the production of rubber of the depression in the rubber states of which so many rumors have come to hand. Judging by past experience, it will be well on into next year before the total production of the current season can be known. Manufacturers have bought rather freely during the latter part of the month just closed.

New York quotations on September 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new....	85 @86	Tongues.....	46 @47
Islands, fine, old....	87 @88	Sierra Leone.....	47 @65
Upriver, fine, new....	89 @90	Benguella.	53 @54
Upriver, fine, old....	90 @91	Cameroon ball.....	46 @47
Islands, coarse, new....	47 @48	Flake and lumps.....	33 @35
Islands, coarse, old....	@	Accra flake.....	17 @18
Upriver, coarse, new....	64 @65	Accra buttons.....	46 @47
Upriver, coarse, old....	66 @67	Accra strips.....	@
Caucho(Peruvian)sheet	53 @54	Lagos buttons.....	45 @46
Caucho (Peruvian)ball	64 @65	Lagos strips.....	@
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage....	54 @55	Madagascar, black....	@
Guayaquil, strip.....	50 @51	EAST INDIAN.	
Nicaragua, scrap....	53 @54	Assam.....	60 @61
Mangabeira, sheet....	40 @41	Borneo.....	36 @46

Late Pará cables quote:

	Per Kilo.		Per Kilo
Islands, fine.	6\$000	Upriver, fine.....	7\$000
Islands, coarse.....	2\$700	Upriver, coarse.....	4\$400

Exchange 10 $\frac{1}{2}$ d.

The latest mail advices from Pará are to the effect that the Islands rubber crop is promising well, as an offset to the shortage expected in the Upriver supplies. Caucho receipts thus far have been slight.

NEW YORK RUBBER PRICES FOR JULY (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine.....	84@87 $\frac{1}{2}$	93@97	99@1.02
Upriver, coarse.....	61@63	67@71	78@80
Islands, fine.....	82@85	87@93 $\frac{1}{2}$	95@98
Islands, coarse.....	46 $\frac{1}{2}$ @48 $\frac{1}{2}$	51@54	64@66
Camatá, coarse.....	50@55	54 $\frac{1}{2}$ @59	64@68

NEW YORK RUBBER PRICES FOR AUGUST (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine.....	85@92	93@99	100@103
Upriver, coarse.....	61@68	68@71	77@79
Islands, fine.....	81@88	88@97	95@97
Islands, coarse.....	46@50	55@58	62@66
Camatá, coarse.....	50@51	55@59	62 $\frac{1}{2}$ @66

Bordeaux.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During the first days of September there has been a slight advance in Caoutchouc in this market, with a good demand. Quotations—francs per kilogram:

Soudan twists, fine... 6.8c@7.	Cameroons, B... ..	3.60
Do ordinary..6. @6.05	Do C.....	3.
Soudan niggers, fine...6.50@6.75	Grand Bassam, lump..	5.
Do ordinary..5. @6.	Do niggers 5.8c@6.	
Cameroons, A. P.	Tonkin, red	5.50@5.75
Do A....	Do black.....	5.75@6.
Do A. M.....		

Arrivals since September 1:

Soudan twists.....kilos	37,550	Grand Bassam, niggers...	300
Soudan niggers.....	2,050	New Caledonian.....	1,500
Grand Bassam, lump.....	1,000	Soudan, 279 bags.	

Stocks, September 16:

Soudan.....	10,000	Quito (Ecuador).....	2,500
Cassamance.....	5,000	Madagascar.....	3,000
Java.....	3,500		
Tonkin.....	2,200	Total.....	30,700
Congo-Mayambe.....	4,500		

Bordeaux, September 16, 1901.

P. CHAUMEL

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us follows:

"During September there has been only a moderate demand for commercial paper, and rates have advanced somewhat, as is usual at this season, quotations being 5@5½ per cent. for the best rubber names and 6 per cent. for those not so well known, and but small demand for the latter."

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.			PARÁ.			ENGLAND.		
	Fine and Medium.	Coarse.	1901.	1900.	1899.	1901.	1900.	1899.
Stocks, July 31.....	634	90 =	724	498	351	215	370	260
Arrivals, August....	293	171 =	464	599	526	1190	1200	1010
Aggregating.....	927	261 =	1188	1097	877	1405	1570	1270
Deliveries, August....	442	223 =	665	531	564	1215	1315	575
Stocks, August 31....	485	38 =	523	566	313	190	255	695
			1901.	1900.	1899.			
World's supply, August 31.....			2238	2629	1697			
Pará receipts, July 1 to August 31.....			2305	1197	2295			
Pará receipts of Caucho, same date.....			250					
Afloat from Pará to United States, Aug. 31.			87	170	185			
Afloat from Pará to Europe, August 31.....			458	345	420			

Pontianak.

EXPORTS from Singapore for two years past have been as follows, in pounds :

YEARS.	Great Britain.	Other Europe.	United States.	Total.
1900.....	2,924,666	778,133	7,755,866	11,458,666
1899.....	336,933	551,866	9,998,266	10,887,066

Liverpool.

WILLIAM WRIGHT & Co. report [September 1]: "*Fine Pará.*—There has been a more active inquiry during the month; prices advanced from 3s. 7d. to 3s. 10d., but since then have receded somewhat, closing quotation being 3s. 9d. The decline is entirely due to the action of the American 'bear' operator, and is not justified by the position of the market, which statistically is strong. There seems to be a general consensus of opinion that the crop will be a short one; to what extent, and whether this will become apparent at the beginning or the end of the crop, remains to be seen; up to date supplies are up to last year. We understand the state of Amazonas are going to impose an extra duty of 2 per cent., which will, of course, add to the price. Taking into account the uncertainties of the situation, and the fact that the prices are 5d. per pound lower than last year, we think manufacturers should not run too short."

Marius & Levy report [September 14]: "We lately saw an advance on prices, which is only the prelude of what we are going to see very shortly. We may anticipate a squeeze again. The news that a liner trading between Manáos, Pará, and Liverpool was stranded, caused considerable uneasiness among a certain class of operators here. We wonder what would happen if a steamer *sank*, with a few hundred tons on board."

"The statistical position is strong. The Islands crop has begun, but Upriver districts, so far, have not shown many signs of life. Upriver grades will become very scarce, and it is now a question whether prices for Islands will rule on the same level as Upriver fine, or whether this latter will command a premium of 2 or 3 pence."

"The latest news from Peru we had informed us that Caucho

slab next crop will be scarce, as well as Caucho ball, for the simple reason that each tree gathered from is killed, and the growth of a *Castilloa* requires years and years.

"Many steamers are lying idle in Pará, and will not be seen busy for a long time to come, because they require cargo, both inwards and outwards. It does not pay to send a steamer empty from Manáos or Pará to the rivers, the journey taking sometimes 40 or 50 days going upriver and 30 to 40 days coming down."

"We point out something very curious:

Fine Pará Upriver 3/9 this year against 4/2½ last.

Fine Pará Islands..... 3/8½ this year against 4/1½ last.

—and in comparing statistics on September 1 :

Pará stocks, this year... .. 984 tons.

Pará stocks, last year 1200 tons.

"The statistical position will be considerably strengthened during October, November and December."

London.

JACKSON & TILL, under date of September 1, report stocks:

	1901.	1900.	1899.
LONDON { Pará sorts.....	129	193	86
{ Borneo.....	129	193	86
{ Assam and Rangoon....	90	41	28
{ Other sorts.....	506	544	418
Total.....	725	778	532
LIVERPOOL { Pará.....	984	1200	703
{ Other sorts.....	1027	1192	753
Total, United Kingdom....	2736	3170	1988
Total, August 1.....	2944	3645	1878
Total, July 1.....	3128	3653	2247
Total, June 1.....	3502	3624	2510
Total, May 1 ..	3397	3952	2129

PRICES PAID DURING AUGUST.

	1901.	1900.	1899.
Pará fine.	3/6¼ @ 3/10½	3/11¼ @ 4/2½	4/0¼ @ 4/3½
Negroheads, Islands.	1/10½ @ 2/0½	2/2¼ @ 2/3	2/7
Do scrappy.	2/9 @ 2/9¼	2/10½ @ 2/11	3/2½
Bolivian.....	3/7	4/0½ @ 4/2¼	4/3 @ 4/3½

Auction, September 6: Very little sold. Nyassa sold at 2/9; Red Mozambique 3/1¼; Assam No. 1, heated, 1/9¼ @ 1/10; low sandy 0/10; ordinary heated No. 1, at 2/1¼; stickless sausage, 2/1¼ bid.

Manaos.

THE legislature of Amazonas has approved a law reducing duties on rubber to 20 per cent., of which 33 per cent. are payable in kind, and authorizing government to receive the whole in kind if necessary, as also to negotiate a loan with guarantee of the rubber received by the treasury, which it is said, will be handed over to a syndicate in Paris with which the governor is in negotiation. This has caused great sensation and the Associação Commercial has called a meeting to protest.—*The Brazilian Review.*

MARIUS & LEVY, who have houses on the Amazon and in Liverpool and Paris, advise us:

"Taking the total of rubber exported from Manáos at 16,000 tons, 20 per cent. of this will be 3200 tons, and 33 per cent. of this is equal to 1056 tons of rubber, which will be in the hands of the Amazonas state government. We reckon that not less than 1200 to 1300 tons will be quantity of rubber stored in Manáos, and it is said that this rubber will be given to a syndicate as a guarantee for a loan, which loan will be raised in Paris. The syndicate will of course try to make as much money as they can on the rubber, independently of any other advantages they may obtain on the special terms of the loan."

"Another law is now in discussion regarding the classification of rubber—i. e., *fine* and *entrefine* (medium) are to form one class of rubber, paying duty on the basis of the price of

fine; scrappy, ball, slab, and other grades paying on the basis of the price of scrappy. We must say that this proposed second law is not equitable at all and it has aroused a general protest from the merchants of Manáos."

Belgian Rubber Movement.

THE imports and exports of crude India-rubber in Belgium for 1899 were as follows:

FROM—	Kilos.	TO—	Kilos.
Congo Free State.....	3,401,059	United States.....	1,059,283
France.....	323,175	Hamburg.....	68,262
Great Britain.....	226,878	Great Britain.....	569,039
Germany.....	81,888	Germany.....	439,557
Hamburg.....	288,689	Holland.....	409,742
Portugal.....	135,740	France.....	287,259
Other Europe.....	57,617	Russia.....	211,371
Africa.....	26,421	Austria.....	108,441
East Indies.....	67,682	Spain.....	24,310
Brazil ..	62,968	Denmark.....	23,959
Other countries.....	29,273	Other countries.....	31,341
Total.....	4,701,390	Total.....	3,846,564
In transit.....	669,229	In transit.....	669,229
Grand total.....	5,370,619	Grand total.....	4,515,793
Grand total, 1898...	3,229,952	Grand total, 1898...	2,370,769

German Crude Rubber Imports.

QUANTITIES.

	1900.	1899.	1898.
Imports..... pounds	29,656,440	30,148,110	22,214,940
Exports.....	10,493,340	11,889,360	5,359,860
Net imports.....	19,163,100	18,258,780	16,855,080

VALUES.

	1900.	1899.	1898.
Imports..... marks.	75,489,000	76,741,000	45,400,000
Exports.....	21,464,000	24,340,000	8,771,000
Net imports.....	54,015,000	52,401,000	36,669,000

Rotterdam Rubber Statistics, 1900.

[Supplied by WEISE & Co.]

INDIA-RUBBER ARRIVALS (KILOGRAMS.)

Thimbles, red.....	123,400	Java and Sumatra.....	43,200
Thimbles, black.....	15,650	Borneo.....	10,300
Congo ball.....	16,500	All other.....	6,800
Kassai, red.....	127,200	Total, 1900.....	877,450
Kassai, black.....	22,500	Total, 1899.....	804,750
Upper Congo.....	471,900	Total, 1898.....	656,400
Sierra Leone.....	11,100	Total, 1897.....	705,650
Mozambique.....	28,900		

	1901.	1900.	1899.	1898.
Stocks, January 1.....	80,600	38,900	36,100	80,200

BALATA ARRIVALS (KILOGRAMS.)

	1900.	1899.	1898.	1897.
Surinam sheet....	161,600	95,250	76,800	153,350
Venezuela block.....	23,500	52,200	158,800	73,000
Total.....	185,100	147,450	238,600	226,350
Stocks, end year.....		5,000		60,000

GUTTA-PERCHA (TONS.)

	1900.	1899.	1898.	1897.
Stocks beginning of year.....	307	180	130	
Arrivals during year.....	280	495	265	
Aggregating.....	587	675	395	322
Sales during year.....	402	368	215	192
Stocks end of year.....	185	307	180	310

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The transactions during the past week in the Hamburg market continued firm for Pará sorts, with active inquiries. Sales of medium quantities of fine Pará and Bolivian spot, were made

at 8.40@8.45 marks; for future delivery higher prices were offered, but found no sellers. Scrappy Manáos, quiet, with minor transactions at 5.80@5.85 marks. Transactions in fine Mollendo were dull at 8.05@8.10 marks for new importations, and at 8.20@8.25 marks for old, dry rubber. Negroheads received no offers worth mentioning. Orinoco [Angostura] received especial attention, and, as the importers were inclined to grant concessions, transactions were brisk for spot and delivery, prices ranging for fine between 7.95@8 marks; for medium between 7.80@7.90; and for Negroheads between 5.60@5.80. The transactions in middle sorts [Africans and Centrals] were of minor importance, at weak prices, excluding the necessity of their detail. The following sorts were taken out of the market:

Mozambique balls, red, finest.....	M.	7.70@7.75
Do Do Do fine.....		7.35@7.40
Do Do Do good.....		6.65@6.60
Do spindles, prime.....		6.50@6.60
Do Do second.....		3.40@3.50
Bissao balls, fine.....		5.40@5.50
Do Do good.....		4.80@4.90
Do Do Sandy.....		3.50@3.60
Colombian scrap, fine.....		5.75@5.80
Colombian sheets, fine.....		4.50@4.55

Hamburg, September 11, 1901.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The steamer *Philippeville* arrived on the 7th instant from the Congo, with 810 tons of rubber, which is the largest quantity shipped by one steamer up to date. [The details follow, under another heading.]

The next sales by inscription will take place on the 24th instant, when 475 tons will be exposed. The principal Congo sorts are represented by big lots:

33 tons Upper Congo balls.....	valuation	f 7.15
40 tons Upper Congo balls.....		f 6.50
47 tons Upper Congo strips.....		f 6.50
23 tons Lower Congo red thimbles.....		f 3.
29 tons Lower Congo red thimbles.....		f 2.75
26 tons Aruwimi.....		f 6.
17 tons Lake Leopold II.....		f 4.75
15 tons Isanghi.....		f 5.50

The demand has been regular of late; in the week from September 2-7, about 85 tons have been sold at steady prices for good qualities and somewhat irregular prices for inferior and badly conditioned qualities.

C. SCHMID & CO.

Antwerp, September 10, 1901.

ANTWERP RUBBER STATISTICS FOR AUGUST.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stock, July 31. Kilos	1,040,441	1,133,702	345,205	256,263	121,932
Arrivals in August.	286,816	498,188	299,604	108,737	194,193
Congo sorts.....	267,939	385,738	280,838	102,973	183,536
Other sorts.....	18,877	112,450	18,766	5,764	10,657
Aggregating....	1,327,257	1,631,890	644,809	365,000	316,125
Sales in August....	642,902	575,766	244,377	220,474	158,847
Stocks, Aug. 31....	684,355	1,056,124	400,432	144,526	157,278
Arrivals since Jan. 1	3,838,870	4,167,418	2,395,870	1,222,948	1,064,830
Congo sorts.....	3,511,496	3,506,913	2,094,646	1,057,800	979,558
Other sorts.....	327,374	660,505	301,224	165,148	85,272
Sales since Jan. 1..	3,768,464	3,403,285	2,258,778	1,172,885	1,046,820

ARRIVALS AT ANTWERP.

SEPTEMBER 7.—By the *Philippeville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo).....	kilos	316,000
Bunge & Co. (Plantations Lacourt).....		8,400
Bunge & Co. (Société Isanghi).....		9,000
Bunge & Co. (Société Anversoise).....		37,000
Société ABIR.....		265,000

Equatoriale Congolaise.....	4,000
M. S. Cols (Centrale Africaine).....	9,000
M. S. Cols (Société Lubefu).....	13,000
M. S. Cols (Produits Vegetaux du Kassai).....	26,000
Ch. Dethier (Société Belgika).....	23,000
Crédit Commercial Congolais (M. D'Heygere).....	3,100
Société Coloniale Anversoise (Belge du Haut Congo).....	63,500
Société Coloniale Anversoise (Sud Kamerun).....	600
Société Coloniale Anversoise.....	4,100
Société Coloniale Anversoise (Société La Djuma).....	10,900
Comptoir Commercial Congolais.....	5,000
Société Agricole and Commerciale de l'Alima.....	1,600
Cie. Commerciale des Colonies (La Kassaienne).....	1,000
Soc. Coloniale Anversoise (Cie. des Mag. Generaux).....	2,300
Mallinkrodt & Co. (Alimaïenne).....	4,000
M. S. Cols (Ikelemba).....	1,500
Société pour Commerce Colonial (Est du Kwango).....	1,000
Trafic Congolais.....	1,500
	810,700

Balata.

TO THE EDITOR OF THE INDIA RUBBER WORLD: There has been a marked decline in the shipment of Balata from Venezuela this year. The comparison with last year follows:

	1900.	1901.
January to July.....pounds	1,210,700	592,031
August.....	229,466	274,085

Total..... 1,440,166 866,116

One cause of this decrease was the prolonged and very severe drought, which delayed the opening of the present season for collecting Balata. Generally this work begins in April, but this year nothing was done before the last days of June. The shipments early in the year included a lot of last year's crop which was retained by the holders, hoping for better prices. There are now many people at work in the Balata districts, and it may be that the total shipment for the year may

be only a little smaller than last year, if the remainder of the season should prove favorable, and there is no great political trouble. Last year's export of Balata reached 2,628,784 pounds. Cuidad Bolivar, Venezuela, August 27, 1901. O. E.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

August 29.—By the steamer *Cametense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	40,000	20,500	105,300	2,500=	168,300
Reimers & Co.	81,300	26,500	36,900	1,300=	146,000
Crude Rubber Co.	89,200	10,300	14,100	400=	114,000
A. T. Morse & Co.	32,000	8,900	54,100	1,500=	96,500
Joseph Banigan Rubber Co	18,500	4,000	3,700	.....=	26,200
Total.....	261,000	70,200	214,100	5,700=	551,000

September 6.—By the steamer *Dunstan*, from Manáos and Pará:

Crude Rubber Co.	35,300	4,700	16,500	.....=	56,500
Boston Rubber Shoe Co.	15,200	3,900	20,700	.....=	39,800
Reimers & Co.	19,600	3,900	11,800	.....=	35,300
New York Commercial Co.	5,500	700	23,100	.....=	29,300
A. T. Morse & Co.	1,300	5,000	13,600	.....=	19,900
Total.....	76,900	18,200	85,700	.....=	180,800

September 16.—By the steamer *Hildebrand*, from Manáos and Pará:

Crude Rubber Co.	258,700	42,000	40,700	.....=	341,400
Reimers & Co.	201,900	49,600	45,300	600=	297,400
New York Commercial Co.	23,000	5,500	45,800	35,100=	109,400
A. T. Morse & Co.	12,800	1,300	53,000	3,800=	70,900
Boston Rubber Shoe Co.	34,200	3,700	5,600	.....=	43,500
Joseph Banigan Rubber Co	18,100	700	2,200	.....=	21,000
G. Amsinck & Co.	14,500	.....	.....	.....=	14,500
Hagemeyer & Brunn.	10,000	400	1,300	.....=	11,700
Lawrence Johnson & Co.	2,400	.....	.....	.....=	2,400
Total.....	575,600	103,200	103,900	39,500=	912,200

[NOTE.—The *Grangense*, from Pará, with 270 tons of rubber, was due at New York, on September 30.]

PARA RUBBER VIA EUROPE.

POUNDS.	
AUG. 29. —By the <i>Graf Waldersee</i> =Hamburg:	
Crude Rubber Co. (Caucho).....	19,000
A. T. Morse & Co. (Caucho).....	7,000
26,000	
SEPT. 3. —By the <i>Campantia</i> =Liverpool:	
Reimers & Co. (Coarse).....	20,000
SEPT. 4. —By the <i>Majestic</i> =Liverpool:	
Crude Rubber Co. (Caucho).....	40,000
George A. Alden & Co. (Caucho).....	22,500
Reimers & Co. (Coarse).....	18,000
80,000	
SEPT. 7. —By the <i>Bulgaria</i> =Hamburg:	
Crude Rubber Co. (Coarse).....	16,000
SEPT. 9. —By the <i>Umbria</i> =Liverpool:	
Reimers & Co. (Fine).....	11,500
Reimers & Co. (Coarse).....	4,500
Reimers & Co. (Caucho).....	56,500
Robinson & Tallman (Coarse).....	3,000
Robinson & Tallman (Caucho).....	2,500
George A. Alden & Co. (Caucho).....	11,000
Crude Rubber Co. (Caucho).....	11,000
106,000	
SEPT. 11. —By the <i>Oceanic</i> =Liverpool:	
A. T. Morse & Co. (Caucho).....	17,500
Reimers & Co. (Caucho).....	22,500
SEPT. 20. —By the <i>Teutonic</i> =Liverpool:	
A. T. Morse & Co. (Caucho).....	16,000
SEPT. 23. —By the <i>Etruria</i> =Liverpool:	
A. T. Morse & Co. (Caucho).....	23,000

OTHER IMPORTS AT NEW YORK.

CENTRALS.	
POUNDS.	
AUG. 24. —By the <i>Buffon</i> =Bahia:	
J. H. Rossbach & Bros.....	22,500
AUG. 24. —By the <i>Philadelphian</i> =Liverpool:	
G. Amsinck & Co.....	5,500
AUG. 25. —By the <i>H. Luekenbach</i> =Colon:	
Isaac Brandon & Bros.....	4,900
Crude Rubber Co.....	2,800
G. Amsinck & Co.....	900
8,600	

CENTRALS—Continued.

AUG. 26. —By Pennsylvania R. R.=New Orleans:	
G. Amsinck & Co.....	7,500
Kunhardt & Co.....	1,200
L. N. Chemedlin.....	800
H. Marquardt & Co.....	800
Lawrence Johnson & Co.....	500
10,800	
AUG. 26. —By <i>El Cid</i> =New Orleans:	
A. T. Morse & Co.....	8,000
Eggers & Heinlein.....	2,000
For Europe.....	5,000
15,000	
AUG. 26. —By the <i>Alleghany</i> =Greytown:	
A. P. Strout.....	6,500
Maltus & Ware.....	3,000
G. Amsinck & Co.....	1,200
Jimenez & Escobar.....	500
Roldan & Van Sickle.....	1,500
United Fruit Co.....	2,000
Kunhardt & Co.....	2,000
Lawrence Johnson & Co.....	1,000
D. A. De Lima & Co.....	500
18,200	
AUG. 27. —By the <i>Advance</i> =Colon:	
L. N. Chemedlin.....	1,300
Flint, Eddy & Co.....	2,300
Joseph Hecht & Sons.....	900
4,500	
AUG. 27. —By the <i>Prins Willem III.</i> =Trinidad:	
Thebaud Bros., (Angostura Fine).....	19,200
Thebaud Bros., (Angostura Coarse).....	8,500
27,700	
AUG. 27. —By the <i>Flaxman</i> =Bahia:	
J. H. Rossbach & Bros.....	14,000
AUG. 28. —By the <i>Maraval</i> =Trinidad:	
Schultz & Ruckgaber.....	3,000
SEPT. 3. —By the <i>Alliance</i> =Colon:	
G. Amsinck & Co.....	3,800
Isaac Brandon & Bros.....	3,600
Gillespie Bros. & Co.....	800
Kunhardt & Co.....	1,200
Jimenez & Escobar.....	1,200
Lawrence Johnson & Co.....	700
Mecke & Co.....	300
11,600	
SEPT. 3. —By the <i>Louisiana</i> =New Orleans:	
A. T. Morse & Co.....	3,000
A. N. Rotholz.....	2,000
5,000	
SEPT. 4. —By <i>El Sud</i> =New Orleans:	
A. T. Morse & Co.....	2,500
Eggers & Heinlein.....	500
R. G. Barthold.....	700
R. F. Cornwall.....	1,000
4,700	

CENTRALS—Continued.

SEPT. 7. —By the <i>Monterey</i> =Mexico:	
H. Marquardt & Co.....	1,500
E. Steiger & Co.....	500
For Europe.....	5,000
7,000	
SEPT. 10. —By the <i>Finanee</i> =Colon:	
G. Amsinck & Co.....	10,600
Hirzel, Feltman & Co.....	5,500
Isaac Brandon & Bros.....	5,400
Crude Rubber Co.....	3,500
Ascensio & Cassio.....	2,700
Dumarest & Co.....	2,700
Flint, Eddy & Co.....	2,400
Eggers & Heinlein.....	1,900
A. Santos & Co.....	1,300
Roldan & Van Sickle.....	1,000
W. R. Grace & Co.....	700
Joseph Hecht & Son.....	600
R. G. Barthold.....	300
W. Loalza & Co.....	300
38,900	
SEPT. 11. —By the <i>Alene</i> =Greytown:	
A. P. Strout.....	5,500
Kunhardt & Co.....	2,500
Jimenez & Escobar.....	1,500
Maltus & Ware.....	1,000
Andreas & Co.....	500
Mecke & Co.....	700
Lawrence Johnson & Co.....	500
G. Amsinck & Co.....	100
12,300	
SEPT. 13. —By the <i>Yucatan</i> =Mexico:	
H. Marquardt & Co.....	1,200
Fred. Probst & Co.....	500
E. N. Tibbals.....	300
Graham, Hinekley & Co.....	200
2,200	
SEPT. 16. —By the <i>Comus</i> =New Orleans:	
A. T. Morse & Co.....	7,000
For Europe.....	1,200
8,200	
SEPT. 18. —By <i>El Dorado</i> =New Orleans:	
A. N. Rotholz.....	3,000
Rubber Celluloid Co.....	3,000
For Europe.....	3,000
9,000	
SEPT. 16. —By the <i>Orizaba</i> =Colon:	
G. Amsinck & Co.....	3,200
Lawrence Johnson & Co.....	1,500
Flint, Eddy & Co.....	1,300
Kunhardt & Co.....	500
D. A. DeLima & Co.....	500
Everett, Heaney & Co.....	500
Jos. Hecht & Son.....	200
Jimenez & Escobar.....	300
Kats & Bock.....	200
A. P. Strout.....	300
8,500	

THE RUBBER TREE IS KING

OF ALL VEGETABLE PRODUCTS.

WHY?

BECAUSE ITS MILK, GATHERED AND COAGULATED INTO THE CRUDE RUBBER OF COMMERCE AT A COST OF ONLY FIVE OR SIX CENTS A POUND, IS WORTH TO-DAY, ACCORDING TO QUALITY, FROM 60c. TO \$1.00 A POUND—FROM \$1200 TO \$2000 PER TON. WHAT OTHER RAW, UNMANUFACTURED VEGETABLE PRODUCT IS WORTH ONE-THIRD AS MUCH?

WHY IS THE RUBBER TREE KING?

BECAUSE OF THE ENORMOUS DEMAND FOR RUBBER in the Arts, a demand growing so rapidly that it has practically doubled in the last six years;

BECAUSE MILLIONS OF WILD RUBBER TREES ARE DESTROYED ANNUALLY in supplying the market demand, until the remaining areas of wild rubber trees are now so remote and inaccessible from the markets of the world, and the product has become so costly to gather, that the price of crude rubber has increased more than 60 per cent. since 1894.

Is it then true, you will naturally ask, that prohibitive prices for the crude product will shortly drive rubber out of many of its present uses in the Arts? No, this is not true; on the contrary, THE GROWING OF THE RUBBER TREE IN WELL-ORDERED PLANTATIONS, in regions where the best varieties of the rubber tree are indigenous and grow wild, HAS NOW BECOME NOT ONLY A THOROUGHLY WELL ESTABLISHED AND DEMONSTRATED BUT AN ENORMOUSLY PROFITABLE INDUSTRY—INDEED IT HAS BECOME IN TRUTH THE MOST PROFITABLE INDUSTRY OF ANY FORM OF AGRICULTURAL OR HORTICULTURAL INVESTMENT.

MATURE RUBBER TREE PLANTATIONS

on the Isthmus of Tehuantepec, demonstrate that as many as 200 mature trees to the acre may be advantageously planted, and that on the seventh year after they are planted and for each of every fifty years thereafter these trees will produce from two to six pounds of net, crude rubber to the tree, worth to-day 70 cents a pound, at the Plantation. Since it costs only from 5 to 6 cents a pound to gather the milk and coagulate it into commercial crude rubber, no figures are needed to demonstrate the unusual profits this industry is to-day paying.

THE ISTHMUS RUBBER COMPANY

has 10,000 acres located near the center of the Isthmus of Tehuantepec, its lands being traversed for four miles by the National Tehuantepec Railway. Its transportation facilities are unequalled by any tropical agricultural region in the world, since it is able to ship from its own station on the Plantation to New York at the rate of $\frac{1}{2}$ cent per pound, or \$10 a ton. 7000 acres of this land are being planted in rubber at the rate of 200 trees to the acre, while on each acre so planted from 300 to 500 coffee trees are being planted, the coffee being a low shrub which thrives best in the shade and for which abundant room is had between the high branching rubber trees. The remainder of this land the Company is planting in sugar-cane, pineapples and other short crops which pay from \$200 to \$500 per acre and which, maturing within twelve to eighteen months from the date of planting, form a source of steady dividends through the period required for the rubber trees to reach maturity.

This Company is now offering certain of its

STOCK FOR SUBSCRIPTION

under conditions which place the investment within the reach of any one. No form of investment so absolutely non-speculative, may be safely relied on to pay such large dividends. If you are interested full information and various books descriptive of this particular industry and also descriptive of various profitable investments in Mexico, may be had by writing to or calling at the offices of

The Isthmus Rubber Company,

Boston Office: 318 Weld Building.

No. 29 BROADWAY, NEW YORK.

Mention The India Rubber World when you write.

CENTRALS—Continued.	
SEPT. 21.—By the <i>Maracas</i> =Trinidad:	
Thebaud Brothers.....	5,500
Thebaud Brothers (Angostura Fine).....	5,100
Thebaud Bros. (Angostura Course).....	2,500
Kunhardt & Co.....	200 13,300
SEPT. 23.—By the <i>Seguranea</i> =Mexico:	
Thebaud Brothers.....	4,000
Hamburger & Stack.....	300
H. Marquardt & Co.....	300 4,600
AFRICANS.	
AUG. 21.—By the <i>Philadelphian</i> =Liverpool:	
A. T. Morse & Co.....	22,500
AUG. 27.—By the <i>Southwark</i> =Antwerp:	
Reimers & Co.....	18,000
O. G. Mayer & Co.....	6,500 24,500
AUG. 29.—By the <i>Germanic</i> =Liverpool:	
Crude Rubber Co.....	52,000
AUG. 29.—By the <i>Graf Walderssee</i> =Hamburg:	
A. T. Morse & Co.....	14,000
AUG. 31.—By the <i>Canadian</i> =Liverpool:	
Robinson & Tallman.....	45,000
AUG. 31.—By the <i>Campania</i> =Liverpool:	
Reimers & Co.....	42,000
Crude Rubber Co.....	11,500 53,500
SEPT. 3.—By the <i>Vaderland</i> =Antwerp:	
George A. Alden & Co.....	50,000
Crude Rubber Co.....	54,000
Robinson & Tallman.....	12,000 116,000
SEPT. 3.—By the <i>Patria</i> =Lisbon:	
Robinson & Tallman.....	12,000
Reimers & Co.....	11,000 23,000
SEPT. 4.—By the <i>Majestic</i> =Liverpool:	
George A. Alden & Co.....	11,000
Crude Rubber Co.....	11,500
Livesey & Co.....	4,500
Reimers & Co.....	2,500 28,500
SEPT. 7.—By the <i>Philadelphia</i> =Southampton:	
Reimers & Co.....	9,000
SEPT. 9.—By the <i>Umbria</i> =Liverpool:	
Robinson & Tallman.....	25,000
George A. Alden & Co.....	26,500
Crude Rubber Co.....	43,000 94,500
SEPT. 10.—By the <i>Kensington</i> =Antwerp:	
George A. Alden & Co.....	295,000
Crude Rubber Co.....	77,000
Reimers & Co.....	52,000
A. T. Morse & Co.....	43,000
Joseph Cantor.....	11,500 478,500
SEPT. 12.—By the <i>Pennsylvania</i> =Hamburg:	
Livesey & Co.....	17,000
SEPT. 14.—By the <i>Lucania</i> =Liverpool:	
George A. Alden & Co.....	11,500
Crude Rubber Co.....	11,500
Livesey & Co.....	11,500
Wm. Wright & Co.....	8,500 43,000
SEPT. 16.—By the <i>Zeeland</i> =Antwerp:	
George A. Alden & Co.....	40,000
Reimers & Co.....	22,000 62,000

AFRICANS—Continued.	
SEPT. 20.—By the <i>Teutonic</i> =Liverpool:	
George A. Alden & Co.....	16,000
Crude Rubber Co.....	7,500
Livesey & Co.....	9,000 32,500
SEPT. 20.—By the <i>Pretoria</i> =Hamburg:	
Reimers & Co.....	35,000
Livesey & Co.....	4,500
George A. Alden & Co.....	4,000 43,500
SEPT. 21.—By the <i>Peninsular</i> =Lisbon:	
Robinson & Tallman.....	14,000
SEPT. 23.—By the <i>Georgian</i> =Liverpool:	
Crude Rubber Co.....	78,000
George A. Alden & Co.....	4,000
Livesey & Co.....	5,500 123,500
EAST INDIAN.	
AUG. 31.—By the <i>St. Louis</i> =Southampton:	
Reimers & Co.....	9,000
SEPT. 3.—By the <i>Menantic</i> =Singapore:	
Livesey & Co.....	12,000
SEPT. 7.—By the <i>Philadelphia</i> =Southampton:	
Reimers & Co.....	4,500
SEPT. 10.—By the <i>Marquette</i> =London:	
Reimers & Co.....	14,000
SEPT. 12.—By the <i>Indrani</i> =Singapore:	
Reimers & Co.....	36,000
William Wright & Co.....	20,000
Livesey & Co.....	11,500
D. P. Cruikshank.....	11,500 79,000
SEPT. 20.—By the <i>Louth Castle</i> =Singapore:	
George A. Alden & Co.....	11,500
SEPT. 21.—By the <i>St. Louis</i> =Southampton:	
Reimers & Co.....	5,500
PONTIANAK.	
SEPT. 3.—By the <i>Menantic</i> =Singapore:	
Reimers & Co.....	425,000
William Wright & Co.....	110,000
R. Brauss & Co.....	12,000 547,000
SEPT. 12.—By the <i>Indrani</i> =Singapore:	
Reimers & Co.....	510,000
William Wright & Co.....	115,000
R. Brauss & Co.....	95,000 720,000
SEPT. 20.—By the <i>Louth Castle</i> =Singapore:	
George A. Alden & Co.....	225,000
GUTTA-PERCHA AND BALATA.	
AUG. 26.—By the <i>Mesaba</i> =London:	
Spaulding Manufacturing Co.....	7,000
AUG. 29.—By the <i>Graf Watersee</i> =Hamburg:	
Robert Soltan & Co.....	7,500
Kramrisch & Co.....	2,500
George A. Alden & Co.....	1,000 11,000
SEPT. 12.—By the <i>Pennsylvania</i> =Hamburg:	
Robert Soltan & Co.....	5,000

BALATA.	
SEPT. 13.—By the <i>Prins Frodk. Hendrek</i> =Surinam:	
George A. Alden & Co.....	1,000
Middleton & Co.....	1,000 2,000
CUSTOM HOUSE FIGURES.	
PORT OF NEW YORK—AUGUST.	
Imports:	
India-rubber.....	2,062,121 \$ 968,660
Gutta-percha.....	19,062 22,708
Gutta-jelatang (Pontianak).....	1,489,368 49,596
Total.....	3,570,551 \$1,038,964
Exports:	
India-rubber.....	225,400 \$161,521
Reclaimed rubber.....	149,763 21,729
Rubber Scrap Imported.....	1,846,283 \$129,697
BOSTON ARRIVALS.	
AUG. 1.—By the <i>Ivernia</i> =Liverpool:	
Reimers & Co.—African.....	24,477
Livesey & Co.—African.....	12,374
George A. Alden & Co.—Canocho.....	11,222 48,073
AUG. 5.—By the <i>Sachem</i> =Liverpool:	
Crude Rubber Co.—Canocho.....	8,165
AUG. 12.—By the <i>Michigan</i> =Liverpool:	
George A. Alden & Co.—African.....	8,169
Livesey & Co.—African.....	2,868 11,037
AUG. 20.—By the <i>Winfredian</i> =Liverpool:	
Reimers & Co.—African.....	6,421
AUG. 23.—By the <i>Turcoman</i> =Liverpool:	
Livesey & Co.—African.....	11,190
AUG. 25.—By the <i>Sagamore</i> =Liverpool:	
Reimers & Co.—African.....	2,616
AUG. 28.—By the <i>Herman Winter</i> =New York:	
Reimers & Co.—African.....	19,297
[Arrived at New York from Hamburg, by the <i>Patricia</i> , August 23.]	
AUG. 30.—By the <i>Uttonia</i> =Liverpool:	
George A. Alden & Co.—African.....	9,960
Total.....	116,759
[Value, \$52,749]	
GUTTA-PERCHA.	
AUG. 5.—By the <i>Bostonian</i> =London:	
George A. Alden & Co.....	552
AUG. 6.—By the <i>Devonian</i> =Liverpool:	
George A. Alden & Co.....	6,668
AUG. 16.—By the <i>Saxonia</i> =Liverpool:	
George A. Alden & Co.....	220
AUG. 29.—By the <i>Consorsio Carboni</i> =Hamburg:	
George A. Alden & Co.....	909
AUG. 25.—By the <i>Virginian</i> =London:	
C. H. Arnold & Co.....	4,090
Total.....	12,439
[Value, \$2807.]	

AUGUST EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Frank da Costa & Co.....	29,102	8,336	73,877	—	111,315	69,872	8,578	44,428	600	123,478	234,793
Adelbert H. Alden.....	21,350	4,720	75,343	5,212	106,625	53,860	10,630	20,650	—	85,170	191,795
Comk, Prusse & Co.....	20,060	6,290	27,940	—	54,290	63,240	12,920	15,620	—	91,780	146,070
Neale & Staats.....	—	—	—	—	—	25,229	3,103	12,540	—	40,872	40,872
Denis Crouan & Co.....	—	—	—	—	—	15,980	5,440	18,410	—	39,830	39,830
The Sears Pará Rubber Co.....	17,097	2,550	6,576	—	26,223	—	—	—	—	—	26,223
Kanthack & Co.....	—	—	—	—	—	5,735	384	1,050	—	7,169	7,169
Rudolf Zietz.....	3,840	2,080	—	—	5,920	—	—	—	—	—	5,920
Sundry small shippers.....	—	—	—	—	—	—	—	1,500	—	1,500	1,500
Direct from Iquitos.....	—	—	—	—	—	14,360	810	2,677	82,392	100,239	100,239
Direct from Itacoatiara.....	—	—	—	—	—	427	—	370	—	797	797
Direct from Manaos.....	191,888	31,137	27,596	7,318	257,939	179,271	36,210	25,715	13,454	254,650	512,589
Total for August.....	283,337	55,113	211,332	12,530	562,312	427,974	78,075	142,990	96,446	745,485	1,307,797
Total for July.....	53,865	12,211	52,243	4,384	123,153	475,196	85,135	258,604	138,275	957,210	1,080,363
January-June.....	4,868,612	1,131,774	2,401,598	1,111,084	9,513,068	3,353,916	732,072	1,408,662	1,980,886	7,475,536	16,988,604
Total for 1901.....	5,205,814	1,199,098	2,665,173	1,128,448	10,198,533	4,257,086	895,282	1,810,256	2,215,607	9,178,231	19,376,764



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ANOTHER "RUBBER TRUST"?

THE newspapers have harvested the periodical crop of rumors, which may have no more foundation in fact than usual, regarding the prospect for another combination in the rubber industry. Though considerable space has been devoted of late to such rumors, they are mostly too vague to justify repetition in our news columns, and we are content to leave them for consumption outside the rubber trade. One of these reports, by the way, is disposed of in a newspaper published in an important rubber manufacturing center, under the head line, "A Hot Air Story." Whatever this phrase may mean, it is evident that the journal in question has been inspired by the local members of the trade with a large degree of skepticism in the matter of a more comprehensive "rubber trust" than has yet taken shape.

It would be a safe assumption that any rubber factory in the country could be bought, provided the price were made sufficiently attractive to the present owners. But payment would have to be made in cash, or at least in paper more readily negotiable than the general run of industrial securities nowadays. In brief, the rubber industry is in a good condition to-day, and the successful owner of a factory, if called upon to sell, would probably ask more for the business than he could expect to make from it by continuing in charge. It would not be enough to take a big price on paper, to be realized only in the event of the combination proving a success from the dividend paying standpoint.

Industrial consolidation, as effected nowadays, calls for the aid of bankers, who take blocks of shares as security for the money of their customers or depositors. It happens at this time that the prevailing quotations for industrial securities are so low as to discourage investments of this class, no matter what the particular industry may happen to be. But so far as the rubber trade is concerned, the whole subject has been threshed over and over again, and it is not probable that a single manufacturer has become more favorably inclined toward going into a "combine" as a result of what has been done in consolidating the rubber industry in the past. At any rate, any talk about a new "rubber trust" could be considered more seriously if it came from leaders in the trade, instead of being confined to anonymous sources, whence the newspapers are as likely as not—or even more likely—to bring up a fine catch of misinformation as often as they go fishing.

ARE TIMES SO BAD IN BRAZIL?

IT may seem strange that so little can be learned about the affairs of a country so important as Brazil, and in which civilized government has so long existed. But government "by the people" exists there as yet only in theory, and real information regarding the administration is little diffused. As regards business conditions, the man is fortunate who knows the state even of his own affairs. In a country so vast, and with limited means of inter-com-

munication, the different states have little relation one to the other. It is, however, only the rubber districts with which we now have any concern.

It is common report that the monetary system of Brazil is sadly unstable; that coffee growing has become less profitable; and that rubber "farms" are being offered for a song. Moreover, bankers have been forced to limit credits to the owners of rubber properties, and merchants to make smaller advances of goods. The fact that fewer laborers, fewer steamers, and fewer supplies have gone up the Amazon this year would seem, of necessity, to mean that somewhere less rubber must be produced.

But our own United States have not always enjoyed uninterrupted prosperity. There have been years of short crops, scarcity of money and the like, but followed always by recovery and subsequent progress. The same thing is possible in Brazil. Recent official reports from the federal capital give a more favorable color to conditions with which the government has to deal; the population of the country remains and presumably does not stop work because times are "bad." And when improvement does come, the news may not fly abroad as fast as the reports of depression have done.

What has this to do with rubber? All that can be said is that the production has not fallen off. Last year's crop was the largest on record, in spite of the predicted shortage. And now some of our correspondents are of the opinion that, while there may be a shortage in the Upriver supplies this season, it will be made good from the Islands districts. This view does not appear to us to be without reason. For years rubber workers have been flocking up the Amazon in search of fresh and more productive trees, while the long worked *estradas* nearer Pará have been neglected or left to the less efficient or less enterprising class of labor. As a result, the production of Islands rubber perhaps has not been kept up to its capacity.

If, however, conditions have proved unfavorable to work in the remoter districts, it would only be natural for an increased force of capable workers to find employment nearer the bases of supplies of money and food, sending to market more rubber than usual from the Islands district. At any rate, no definite indication exists as yet that the world will not have its usual supply of "Pará rubber" this year, though of all things known to commerce this is about the unsafest on which to risk one's reputation as a prophet.

ANOTHER RUBBER BELT IN AFRICA.

THE collection of India-rubber in the French Soudan, referred to elsewhere in this paper, points to the probable existence in Africa of another rubber belt, equal in importance to that of which the Congo river is now the outlet. If this should prove true the effect will be to prolong the supplies of native rubber, though ultimately it is to be feared that the new fields will become exhausted, as others have been, for the reasons set forth in an illustrated article in THE INDIA RUBBER WORLD last month.

The matter for present interest, however, is the fact

that some virgin rubber fields yet remain to be worked. The French colony of Senegal is already a producer of rubber, from the region near the seaboard. The French Soudan is an area further inland, which has been brought under the administration of this colony. Beyond this are regions, claimed by various European powers, and not yet brought under civilized control, and in which rubber of value doubtless will be found to exist. Finally, to the eastward, lies the British sphere of influence, including Uganda, where rubber is known to abound, and where its exploitation is only a matter of time. Thus is indicated a belt across Africa, from ocean to ocean, north of the Congo region, the forests of which, no less than those of the Congo, are the home of rubber.

True, much of this vast region lacks such a favorable outlet as the Congo river affords. Yet nature has done much in this direction, which man is attempting to supplement. French Soudan rubber now comes down the Senegal river; as the search for rubber progresses further eastward, the headwaters of the great Niger river will be reached. The northern affluents of the Congo will become available for parts of this new rubber belt, and the Uganda railway, reaching to the East African coast, and the river Nile will afford outlets for certain rubber.

The late Emin Pasha sent samples of rubber from the eastern Soudan, down the river Nile, to the factory of the Messrs. Pirelli, at Milan, and he entertained a hope of developing an important trade based upon the rubber resources of a region which is only now being brought under other than native control. To recur to the favorable advantages for shipping Congo rubber, it is generally believed that the profits of trading in Belgian Africa have been very great, and doubtless it will be possible to exploit rubber at a profit in regions where the cost of transportation will be greater than by the Congo river and railway. Especially will this be true after the cream of the Congo rubber supply has become exhausted.

STRIKES AND THE RUBBER INDUSTRY.

A REPORT has appeared on the cost of the recent strike in a rubber factory at Harburg, Germany, the history of which movement has been detailed already in this journal. But the cost as stated is only that portion which fell upon the "social-democratic clubs," who, more than the rubber workers, were responsible for the unsuccessful demonstration made by the latter. If there should be added the loss of wages, not only during the strike, but, in some cases, permanent loss of position, the total would be found to exceed greatly the item of about \$25,000 which the clubs had to make good. It is thought that another strike in the German rubber industry will not be attempted soon, in view of the failure of the one at Harburg, which, by the way, was the first in that country for very many years.

Not only in Germany, but in Great Britain and in America as well, the rubber industry has been singularly free from strikes or other labor troubles. There has never been, in fact, in any country, anything like a general shut-

ting down of rubber mills on account of differences between employers and employés, and as time advances the probability of such an occurrence becomes more remote. This latter suggestion is ventured here for the reason that the tendency of wage-earners in general to resort to strikes is apparently becoming less marked. The "leaders" of the labor unions have not the same strong hold upon their followers as has been exhibited in times past, and it must be admitted that, oftener than otherwise, the initiative in strikes has been taken by the "leaders" rather than by the rank and file of the workers. The failure of the great steel workers' organization in this country to rally in force to the call to strike, a few months ago, foreshadows what may be expected generally under like circumstances in future.

It may be of interest to consider why strikes have not occurred more frequently in rubber factories in the past. One reason may be found in the comparative segregation of the rubber workers. While their number in the United States is large, in the aggregate, they are scattered among about 200 factories, in more than a dozen states, while the nature of the industry is so diversified as to render impossible any such universal wage scale as operates as a bond of union among the steel workers, for example. The length of the working day, the amount of work to be accomplished in a day, the rate of wage, and all other such details may vary widely among the different factories, and in the same factory at different seasons. There have not been more strikes in rubber mills, therefore, because the workers have been less thoroughly organized in unions than in some other industries.

But there are other considerations. The largest rubber factories in the country, as a rule, each had a small beginning, often with the owner working side by side with his employés at first, and as the factory grew, there remained a community of interest throughout the establishment which permitted any grievance, real or fancied, to be discussed freely, without the necessity of stopping work and wages in order to force a settlement. It may further be noted that rubber work calls for a higher standard of intelligence than some other branches of industry, one evidence of which is found in a relatively high rate of wages, and this fact doubtless has discouraged a resort to strikes in rubber factories as a means of arriving at an understanding with employers.

RUBBER SHOES MADE BY MACHINERY.

THE manufacture of rubber shoes as it is carried on to-day consists of a series of processes in which there is a maximum of hand labor and a minimum of labor saving machinery. In this particular it stands almost alone among great industries. From its inception, some fifty years ago, there have been modifications of compounds, and minor machines for special parts of the work, but no radical departure from the first idea of engraved rolls, a cumbersome cutting room, many separate shoe parts, booking, cementing, and building up by hand, wooden

lasts, varnishing, and the long slow cure in the dry heater. To bring the business down to the basis that other lines of rubber manufacture have reached, calls for the elimination of the more costly of the processes above mentioned, and the production of goods that are better in respect to appearance, wear, and cost. A careful examination of the new processes and product, which are referred to elsewhere in this issue, with the completest liberty to question or disprove any claim, leads the Editor of THE INDIA RUBBER WORLD to state unreservedly that an absolute revolution in the manufacture of rubber footwear of all kinds is now at hand. In its originality, completeness, and simplicity, the new process seems absolute finality.

THE DEATH OF CHARLES L. JOHNSON, general manager of the United States Rubber Co., has brought out expressions of sorrow and sympathy from the rubber trade at large, as the death of few men connected with it would do. Leaving out the rare business ability, which it is acknowledged he possessed in fullest measure, the impress that his considerate and gentlemanly deportment made upon all those with whom he came in contact is a most delightful recollection. The narrow proverb that "There is no friendship in business" falls very flat in reviewing such a personality; nor is the reason for Mr. Johnson's wide circle of friends far to seek. He met the whole world in a genuinely friendly manner, with the broadest charity toward human failings, receiving in return general respect and affection.

THE FIRST AUTHENTIC INFORMATION regarding Gutta-percha in the Philippines appears this month in a letter from a correspondent of THE INDIA RUBBER WORLD in an island which, during the first months of this year, exported to Borneo over 400,000 pounds of gum which was designed to be worked over on the latter island and put on the market as Gutta-percha. While the nature of this gum remains to be estimated by experts, the price obtained for the material is evidence that it has practical value. By this time the forestry laws enacted by the American administration in the Philippines have been put in force, with the double result that the wasting of the gutta trees will be checked, and a revenue will be derived from the exploitation of the gum.

OUR ABLE CONTEMPORARY, the Cincinnati *Post*, deserves a large rubber medal for having unearthed a surprising piece of information, which it very properly makes prominent, instead of keeping it a secret. It appeared in the issue of that paper for October 2, and is as follows, including headlines:

RUBBER ADVANCES.

MANUFACTURERS HAVE DOUBLED AND TREBLED PRICES.

RUBBER goods have gone up 100 to 200 per cent. in the past week. This affects both the wholesale and retail trade. The manufacturers have made an agreement, guarded by a \$5000 bond, to maintain the new scale.

It is strongly advised that everybody read the Cincinnati *Post*; otherwise there might be further advances in rubber prices without manufacturers or dealers being aware of it.

WHY NOT TRY WIRELESS TELEGRAPHY between Pará and Manáos? At latest accounts the Amazon river cable had broken down again, thus shutting off prompt communication with Manáos, which has superseded Pará as the most important center of the Brazilian rubber interest.

THE STEALING OF CRUDE RUBBER.

THE theft of crude rubber from manufacturers and importers still interests the rubber trade, and the action of the New England Rubber Club, as shown in the following circular, is, without a doubt, a wise and progressive move. It is to be hoped that the trade will take pains to place all the information at their disposal before the committee, and that the ultimate result will be that, no market being found for stolen rubber, theft will cease. The circular sent out, requesting replies to be sent to the secretary of the club, follows:

October 15, 1901.

GENTLEMEN: The stealing of rubber from importers and manufacturers, and its sale by unscrupulous persons, is an evil from which the whole rubber trade has long suffered. The New England Rubber Club has therefore appointed the undersigned a committee to investigate and report at an early date, and recommend remedial action.

That we may be more fully acquainted with facts upon this important subject, we respectfully ask the coöperation of the whole trade in answering the questions that appear on the enclosed postal card. The committee would also be glad to receive in detail any suggestions that may occur to you on this subject.

Probably the most practical way of remedying the evil is to prevent the thief from finding a market for stolen rubber, and with that idea in view, the committee will doubtless recommend—

First. That every dealer or broker of rubber be asked to subscribe to agreements that he will carefully investigate the title of every lot of rubber he offers for sale;

Second. That every purchaser be invited to report any lot of rubber offered by any person not a recognized dealer; and

Third. That a suitable committee be chosen with authority to employ a public detective agency to trace out the title of suspicious lots.

The fact that rubber is freely exposed in factories calls for coöperation and mutuality on the part of every dealer and manufacturer, and the undersigned will be happy to receive from you any communication on this subject, but request particularly that you will answer the questions on the enclosed postal card.

Thanking you in advance, we are, Yours very truly,
 F. C. HOOD
 A. W. STEDMAN
 C. H. ARNOLD
 H. C. PEARSON } Committee.

The questions on the postal card are:

1. Have you reason to suppose that, at any time in the past, crude rubber has been stolen from you, either in transit, in storage, or during process of manufacture?
2. Have you had rubber offered to you, by other than regular dealers or importers?
3. What would you suggest as the most effective means of guarding against the stealing of rubber?

CRUDE RUBBER THEFTS IN HAMBURG.

THE *Gummi-Zeitung* of October 14 says: "The well known rubber firm of Weber & Schaer, Hamburg, have come on the track of a great many thefts of crude rubber, especially through the fact, that repeatedly great differences in weight were discovered, especially with shipments going abroad by steamer. In the interest of all parties concerned, the matter had been handed over to the criminal section of the police department. The investigations made have had the satisfactory result so far, that a number of thieves and receivers of stolen rubber have been locked up. As those thefts were beyond doubt aided through the fact, that thieves and middlemen could find means to sell those goods to manufacturers, the said firm found it advisable to send the following circular to all German rubber manufacturers:

It unfortunately has been evident, for some time past, that robberies have been committed, at an increasing rate, from cargoes of raw rubber,

stored here, shipped from, or transhipped via Hamburg. There has been, particularly, a considerable trade in so called samples of rubber. The local criminal police, in whose hands the matter now rests, have already arrested and hold for examination a number of perpetrators of these thefts. They have rendered possible by the fact, that the thieves have succeeded in selling the stolen goods by the intermediary of dealers in commercial products generally and other middlemen.

We therefore respectfully ask all rubber manufacturers not to buy small consignments of so called sample rubber from Hamburg firms not known as raw rubber dealers or importers.

At the same time we express to those, who, during the last year have received such shipments from purveyors not known as rubber dealers, our courteous wish that they supply us as soon possible with the names of the sellers and the details of such consignments, to enable us to investigate their origin here.

"It would be most desirable in the general interest if this procedure of the firm of Weber & Schaer should find support, providing them with any material which may in any way aid in the clearing up of this affair."

EXPORTS OF AMERICAN RUBBER GOODS.

THE values of exports from the United States of goods classed as "manufactures of India-rubber" during the first eight months of 1901, compared with former years, are stated officially as follows:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
Jan-June	\$300,095	\$200,267	\$920,334	\$1,420,706
July	51,554	91,089	153,488	296,121
August	47,268	102,951	129,264	279,483
Total, 1901	\$398,917	\$394,397	\$1,203,086	\$1,996,310
Same, 1900	359,840	350,286	1,000,839	1,710,965
Same, 1899	(a)110,604	169,688	1,024,206	1,304,498

(a) Included in "All Other" prior to July 1, 1899. [Exports to Hawaii and Porto Rico not included.]

There were exported in August 260,709 pairs of rubber footwear, against 221,021 pairs in August, 1900, and bringing the total exports for the present calendar year up to 895,046 pairs. Exports of reclaimed rubber, from January 1 to August 31 have been:

	1899.	1900.	1901.
Value	\$285,817	\$373,605	\$230,246

RUBBER FROM THE BENI RIVER.

ACCORDING to a report from the Belgian minister to Chile, in relation to Bolivia, there were granted in the department of La Paz, during 1900, forty-five concessions for the extraction of rubber, embracing a total of 1707 *estradas*—approximately 256,050 rubber trees.

The exports of rubber through the custom house at Villa Bella, at the junction of the rivers Beni and Mamoré, are reported to have been as follows (in kilograms):

YEARS.	Fine.	Medium.	Total.
1895	684,422	78,485	762,907
1896	741,341	69,910	811,251
1897	669,125	68,564	737,689
1898	774,449	96,114	878,563
1899	725,310	89,122	814,432
1900 (six months)	343,536	38,607	382,143

It is intimated that perhaps as much more rubber has been smuggled past the custom house.

NEW CALEDONIA.—The exports of rubber from this colony during the first six months of 1901 amounted to 4292 pounds. The exports during the whole of 1900 were 52,983 pounds.

THE ACID AND VAPOR CURES.

By a Superintendent.

EVER since the days of Charles Goodyear more or less has been done in the vulcanizing of rubber by what is known as the cold cure process. At times certain lines of work have adopted this method on a very large scale and have been fairly successful. For example, there was a time when a factory in Providence made large quantities of rubber shoes, all cured in this manner. Later the American mackintosh business went very largely into the vapor cure, but for a variety of reasons this was not particularly successful, and it was entirely dropped in favor of dry heat vulcanization. For certain puregum goods, however, the process has always been followed with more or less success—perhaps in European countries with a greater degree of success than in the United States, until within the last three years, when there has been noted a large increase in goods produced in this way and a much finer product.

Indeed, American goods of this sort to-day are rapidly capturing the foreign markets. Experts in this line predict a great future for cold cured goods. Among them are those who claim that nearly every variety of rubber work can be cured by it as now used, or by adaptations of it. Whether this is true or not, it certainly has been proved that goods are turned out that are long lived, elastic, and of a most beautiful finish. It is also to be noted that cheaper stocks are being successfully treated than was possible in the past. Little by little the dipped goods manufacturers are coming into the field of general druggists' sundries, but that they will some day monopolize it, as the more enthusiastic predict, is hardly likely.

The acid cure, pure and simple, is used only on thin dipped work. That is, a cement that will flow easily, is made and forms of porcelain, glass, or wood are dipped into this cement and withdrawn slowly so that it drains off evenly and without air bubbles. A number of secret compounds are used in the making of this cement, as it is necessary to have the blend so smooth that it will drain off smoothly and yet not too quickly. After the solvent has evaporated and the rubber has hardened upon the forms the vulcanization takes place. A mixture of $\frac{1}{2}$ pound of chloride of sulphur to 4 pounds of bisulphide of carbon is the ordinary vulcanizing solution. Into this the dipped goods are submerged from ten to fifteen seconds, when they are stripped from the molds and again dipped. The rubber is then placed in a bath made of 20 gallons of soft water, $\frac{1}{4}$ pound of chipped borax soap, and 1 ounce of ammonia. The goods are allowed to soak in this for about two hours and then rinsed with clear water. Of course, this process is only used for articles made up of an even thickness of rubber not over $\frac{1}{4}$ inch.

It is to be noted that heavily compounded stocks are not generally suitable for this sort of work, nor stocks that contain oil or rubber substitutes; also that silk is the only fabric that will withstand the acid cure. Where the dipped work is used, it is customary to have the employes protected from the fumes by having the work in a close covered cabinet in which the dipping is done, an exhaust fan drawing the fumes away.

A very interesting part of the acid cure is that which applies to "blown goods," such as toy balloons. These goods are dipped in the vulcanizing solution and at once inflated to about seven times their normal size, the object being to allow the fluid that still adheres to the surface of the rubber an opportunity to cure it more evenly. After this expansion the bal-

loons are thrown into a basket and the air is allowed to leak slowly out through the valve by which it was admitted, which by the way is made so that it is just leaky enough for the purpose. Only a small portion of the dipped work is blown, however, some manufacturers claiming that the expansion of the rubber during the cure is wholly unnecessary and that rubber properly cured without expansion is far more dense and every way desirable, while others hold just the reverse opinions. It may be noted, however, that both schools make excellent goods.

The vulcanizing of goods by acid fumes, a process that is often used, is done in a vaporizing room made of clear kiln dried white wood boards, the ordinary size being 7 feet wide, 7 feet high, and 12 feet deep. This room is made with the frame on the outside, the sheathing being on the inside, and is put together with galvanized nails, screws, and hinges, the steam fittings being also galvanized. This is lined with $\frac{1}{4}$ inch asbestos board and has for heating about 180 feet of 1 inch pipe placed inside of the room about 6 inches above the floor. The pipe, by the way, is arranged in two coils, one on each side of the room, leaving a clear space in the middle. A $\frac{7}{8}$ inch board is then cut into $1\frac{1}{4}$ inch strips, 7 feet long, with round corners, which strips are placed crosswise in the heater, two inches apart and 6 inches below the ceiling. All the uncovered woodwork is then covered with shellac. The heater is then fitted with four small sliding doors, one on each side, the bottoms of the doors being level with the steam pipes. A ventilator with a damper is then placed at the rear of the room and as near the top as possible. The front of the room should have folding doors the entire width of the room. This vulcanizing chamber, of course, is arranged for the curing of coated cloths which are festooned from between the cross bars, already described, the bottom folds hanging about 12 inches from the floor. A heater of this size will hold about 400 yards. A small china dish is then placed on the pipes at each of the sliding doors and in each one is poured $\frac{1}{8}$ of an ounce of chloride of sulphur. The doors are then closed and the room kept tight for from 15 to 20 minutes, depending upon the thickness of the goods. The ventilator is then opened, as are the small doors, and about 20 minutes are allowed for the fumes to pass off. In the meantime clean plates are put upon the pipes, in each of which is an ounce of ammonia. After 20 to 30 minutes, with the ventilator opened about half the time, the goods may be removed.

In the vulcanization of dental dam the same process is followed, except that it takes about $1\frac{1}{2}$ hours to vulcanize, and 1 ounce of chloride of sulphur is used, the heat being turned off after the first hour. The amount of heat used in this vulcanization never exceeds 150 F. In building a vulcanizing chamber, it should be on the top floor of the building, away from all mixture of oils, and where the fumes cannot come in contact with sheet zinc, or other easily corroded metals.

In the vulcanization of dress shields in a chamber of this sort, a tumbling barrel is made with cross bars running from one end to the other. This is covered with $\frac{1}{4}$ inch galvanized or nickel wire. A very good size for a barrel of this sort is $2\frac{1}{2}$ feet in diameter by 5 feet in length, so set that it will make 27 revolutions a minute. This will hold a number of gross of dress shields and the vulcanization very easily accomplished. Cloth covered shields will vulcanize in 20 minutes and pure gum shields $1\frac{1}{2}$ hours.

RUBBER AND GUTTA-PERCHA IN THE PHILIPPINES.

By Frank J. Dunleavy.

TO THE EDITOR OF THE INDIA RUBBER WORLD: There is rubber of value in the Philippines, and Gutta-percha also, and several varieties of the latter and many other gums or gutta-like substances which are not Gutta-percha, but are mixed with the latter by the Chinese and the Moros. To-day one of the mountain tribemen, a Tiriria, came to me with five bundles of what he called *Goma* (all gummy substances are sold under the name of *Goma* here, whether it be India-rubber, Gutta, Balata, or one of the other kinds). To the uninitiated they might have appeared like coils of Gutta wound up, rope like, around a bamboo, but when I examined the material every second coil or rope was an adulteration. I passed him out and he sold the whole as Gutta-percha to a Chinaman. The latter will boil it all down, extract some of the chopped bark and dirt, and ship it to Sandakan, in Borneo, where it will be bought up and shipped to Singapore and appear in the market quotations as Borneo Gutta.

This has been going on here since 1887, more or less, though few outside of the Chinese and the Spaniards knew this island was a Gutta producing island. I am not very familiar with the Gutta trade under Spanish rule here, except that I know the price used to be from \$10 to \$25 Mexican per picul of 133 $\frac{1}{3}$ pounds. There was not much of it shipped because the Spaniards had very hard and fast forestry laws and only allowed the gathering of Gutta and Rubber under strict supervision, and only by tapping the trees in a certain way and at certain times of the year.

When the Spanish garrison was withdrawn from this town, after the late war, the Chinese traders took charge of matters here, under the direction of a halfbreed Chinese and Moro Datto. The latter made slaves of everyone who opposed his will and the beautiful valley of the Rio Grande run riot till the American troops could come and occupy the town, which was some six months after the Spanish evacuated the place. Then, for some reason no sane man could ever understand, the forestry laws as they applied to the gathering of Gutta and Gum elastic were suspended and the Americans allowed the Chinese to come in great numbers and start cutting down the trees and thereby destroying them so that they could gather the Gutta and Rubber. The same destruction of Gutta trees that had been going on in the Malay peninsula further south for a number of years was started and has been kept up till now.

The trees are cut down and then chip ring circles at intervals of say a meter are cut into the trees. This is continued along the trunk and branches and the *latex* is guided into pieces of bark or leaves. They then gather the whole of the product, with chips, bark, and dirt, and boil it with a little citreous bark or wild lemons and coagulate it, with dirt and everything mixed in to make it weigh. Another method is to chip ring the tree standing and then light a fire around the tree so as to hasten the flow of *latex* by heat. This method, while not killing the tree outright, serves to hinder its utility for some years after. The Chinese and the Moros who do this claim they have never been shown how to make incisions and tap them, but this is not true. They pursued the above methods because, with tapping where one will collect 5 pounds of Gutta, with cutting down and collecting in the manner described one can collect from 15 to 25 pounds of Gutta to the tree.

You can realize what Uncle Sam has lost when I tell you

that, according to figures I took from manifests at the custom house at the port of Jolo, in the month of May last, no less than 426,426 pounds of Gutta and Rubber was exported from this island to Borneo and Singapore between the month of December previous and up to that time. Put this amount at the large average of 20 pounds to a tree, and it will give us 21,321 Gutta and Rubber trees destroyed—mostly Gutta—and, all the customs collected on this large amount was \$140 Mexican, notwithstanding there was a forestry tax to pay of 10 per cent. on the valuation, I have known some of it to sell in Sandakan for \$120 Mexican per picul of 133 $\frac{1}{3}$ pounds, though the average would have been about \$70 to \$80 a picul.

But last month the Forestry laws were enforced to the extent of collecting the 10 per cent., though no attempt is being made to prevent the sale of Gutta that has been gathered by the destruction of the trees. I expect, as a matter of protection for themselves, that the Forestry department will prohibit the trading in any kind of Gutta or Rubber except what has been tapped. It is late in the day for this district, as one has to go ten days march up the valley now to see a Gutta tree, but there are other districts equally as rich in Gutta as this was. The civil government are anxious to conserve to the country this valuable asset in Gutta, and with that purpose in view have dispatched a special agent to Sumatra to study the new method of extracting Gutta, by which it is claimed one can extract more Gutta by this method than if the tree was cut down and destroyed, without harming the tree in the least for the following season. This agent, I hear, will be sent down here on his return to instruct us novices that are interested in the Gutta industry. If such is true the position is simply this: If the government had the 20,000 trees that have been cut down during last year and they could extract say even 12 pounds of clean Gutta to a tree, worth in New York \$1.75 gold a pound, each tree would be worth in a year's products \$42 Mexican. To pay 10 per cent. to the Forestry bureau on this would mean \$80,000 Mexican a year revenue. But for the sake of being on the safe side cut this in two, and say \$40,000 a year. You can calculate what wealth is in the forests of Mindanao.

No doubt when the government get this proposition well in hand the United States possessions will figure as a Gutta and Rubber producer, and, with a chemist and proper equipment, they will be able to classify the various other gummy substances and give them their proper value in the market. No white man has made a single cent out of all the destruction of these trees so far as I know; as the whole business was carried on by the Chinese who have been paying \$100 a day for a steamer for the last six months to do nothing else but run between here and Sandakan and carry Gutta and Rubber out of the country.

Gutta is selling to-day at from \$30 to \$50 Mexican per picul. The quotation in the last INDIA RUBBER WORLD to hand ranges from 65 cents to \$1.75 gold per pound in New York.

The Gutta when it leaves here is rolled around the joint or one length of a bamboo and the latter is filled with water. The Gutta is rolled till it is about 10 to 12 inches in diameter and long enough to conceal the bamboo. The idea is that in handling the Gutta in discharging at Sandakan the plug will be knocked out of the bamboo and the water percolate through the whole package and make it weigh. If the plug happens to stay in it will weigh well also.

I have seen the Chinese putting stones in the center also and inferior Gutta and dirt, and other substances, so you will see it is no wonder this Gutta brings such a low price. The government, if they want to build up a reputation for Philippine Gutta, should prohibit the Chinese from dealing in it, and allow none of it to be exported unless tapped and stamped to show where it comes from. I do not claim to know much about Gutta, though I have handled a great deal of rubber in Madagascar, but as I am the only white civilian in this pueblo, and being interested in the development of the country, I give you those facts for the benefit of your readers.

Since I have written the above the government has done the right thing. The government has issued an order that any more rubber or Gutta collected by destroying the trees will be confiscated.

Cattobatto, Island of Mindanao, P. I., August 28, 1901.

AN EVIDENCE OF OFFICIAL INTEREST.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Forestry bureau of the Philippine Islands would be under many obligations to you if you would furnish us with a list of the most valuable and practical books on the subject of rubber and Gutta-percha. The enclosed list is one furnished by the Agri-

cultural department at Washington, and is submitted to you for any additions you may wish to make.

There is a large area in the Philippine Islands in which we find Gutta-percha and many varieties of rubber. At present there is no one to properly investigate our resources in that line, and the initial steps have been taken by awakening an interest in the Forestry schools at Yale and Cornell. These schools will gather together all the available literature on the subject; will call on the Agricultural department for its rubber expert to deliver a few lectures; practical rubber men will be asked to give the young men a few talks on the subject. These, combined with a few visits to rubber works will be sufficient for the present. The force of foresters for the Philippines will be largely drawn from the young men of these two schools, and it is hoped that a few of them will be qualified within the next year or two to properly investigate and control these valuable products.

Any suggestions you might offer will be appreciated. I return to the Philippines in a week or two. - - - Yours respectfully,

GEORGE P. AHERN,
Captain 9th Infantry.
In Charge Philippine Forestry Bureau.

Washington, October 18, 1901.

CRUDE RUBBER CONTRACTS.

THE subject of contracts in dealing in crude rubber comes up in various ways, and at times in such a manner as to cause irritation and engender ill feeling. Hence it has occurred to me that a statement of how such contracts are entered into and the customs regulating the same might clear the atmosphere and bring out such comment as will be to the mutual advantage of buyers and sellers. During the past decade there have been, probably, a greater number of differences between buyers and sellers but for smaller amounts than during the previous ten years.

The following questions occur to me for consideration by which it will be seen that a wide subject is opened up:

- First. What is a contract?
- Second. What kind of a contract is made?
- Third. How are these contracts signed?
- Fourth. How does the buyer accept the contract?
- Fifth. Can a seller cancel a contract?
- Sixth. Can a buyer cancel a contract?
- Seventh. If differences arise how are they adjusted?
- Eighth. Over or under deliveries—how to be treated?
- Ninth. A contract expires undelivered by seller. How shall buyer govern himself?

I. Webster defines the word Contract: "To enter into; to be liable to; to incur; to gain." The synonyms are: "to shorten; abridge; epitomize; narrow; lessen, condense; reduce; confine; incur; assume."

II. The seller, or broker, upon effecting a sale, hands or mails to the buyer a contract worded about as indicated in the following forms, differing according to the conditions of the transaction:

GENTLEMEN: We have sold you this day about Ten (10) tons Upriver Fine Rubber @ 88 cts. lb. ex. store (or dock), New York, N. Y.

Terms: Cash in ten (10) days from delivery [or, option to give a 4 mos. note with interest added @ 6 per cent. per annum].
[Signed] _____.

GENTLEMEN: We have sold you about Fifteen (15) tons Upriver Fine Rubber @ 86 cts. lb. ex dock, New York.

About (5) Five Tons for delivery in Oct., 1901.
" (5) " " " " " Nov., "
" (5) " " " " " Dec., "

Terms: Cash Ten (10) days from delivery ex dock New York.
[Signed] _____.

III. The contract is signed by the seller only—excepting in the case of a broker, in which case the broker signs as selling "for account of" the seller to the buyer and hence signs his own name.

IV. This contract, either by hand of the seller (or broker) or through course of mail, reaches the buyer, and custom has made it not necessary to acknowledge the receipt of same; but if such contract is not in accordance with the understanding of the buyer, custom rules that "silence gives consent," and in the event of the contract having been filed away without controversy, the contract becomes binding, just as if the contract had been accepted by the buyer, as complaint about the wording of contract should have been made during the Ten (10) days following the date of the contract.

V. The contract now being in force, we next pass to the arrival of the rubber, and delivery of same, or, if in store, the delivery only. The seller either tenders delivery order, or, having shipping instructions, ships the rubber, the goods being reweighed and, in the case of Parás, re-tared. (African and Central tares are re-estimated.) The buyer also pays the cartage and freight, and the rubber becomes the buyer's from the moment that the delivery leaves the seller's hands, or delivery is made to the cartman, and only legal process can divert the ownership. This being so, the buyer turns to the goods for quality and quantity, as described in the contract.

Being Parás, unless a clerical error is made, the weights of the sworn city weigher is final, as he is a public weigher and there is nothing for him to gain in falsifying weights. Buyers should weigh and tare the rubber as soon as received, so that any errors may at once be detected and any stealing traced. Stealing en route is loss to the buyer, recoverable from the transportation companies, and sellers always assist buyers by producing receipts and weigher's returns in the originals. Sellers should always place the gross weights upon the receipts which they get at time of shipment, duplicate of which should be sent to buyer when any large quantity is shipped.

Paras are always weighed and tared, but Centrals, Africans, and East Indian rubbers cannot be, as is obvious; hence estimates are made based upon the original tare, and buyers are fair in meeting any errors which may occur in this respect.

Next, and last before settlement, is the question of quality, to be passed upon by buyer. The rubber is opened and examined by the buyer, or his superintendent or compounder, and, if bought "as per sample," compared with the sample, but as, in this instance, "Fine Pará Upriver" was to be delivered, the buyer decides whether it is, first, "Fine"; second, if "Upriver." If not, then the buyer looks to the seller to replace either the whole lot or that portion of the lot that is inferior, but the seller has the right to insist on the whole lot being replaced if he so desires, the buyer not to exercise his own option and pick out the best in the parcel. The seller, however, should be required to provide the buyer with rubber to replace at once—but in no case can the seller consider that the buyer, by his act of refusing rubber not up to grade, as a cause on his part to refuse to replace the lot or part of the lot, nor can he decide that he can take the lot back and call the refusal of the lot a cancellation of the contract, but is required to fill contract with "Upriver Fine Pará Rubber" and not in whole nor in part with an inferior grade.

VI. Nor can the buyer use a subterfuge and, by claiming that the quality is not right, refuse the opportunity to the seller to examine and or replace the lot or part of the lot complained of, nor can he or they, because the market has dropped, say, 2 cents, require the seller to take the rubber back and cancel contract because a couple of cases are defective.

VII. Wouldn't it be a good idea to adopt, for the settlement of differences the method used in England—Arbitration? The very fact of a difference which cannot otherwise be adjusted could be by that fact a case for arbitration and a committee to be selected by outside parties (in England by the Board of Trade) would look into the questions and rubber in dispute, and the losing party would pay the small fee required, and the decision should be final. This method is easy and the expense nominal.

Here the disputants "sulk in their tents" and enough time and good feeling is used up, in addition to lawyers' fees, to pay any gain or loss. Good "horse-sense," practically applied to a contract, goes a great way, and arbitration is applied horse sense.

VIII. Over and under deliveries of a contract should be avoided. Mr. A. buys "about 5 tons" of rubber. In the rubber trade a ton is the gross ton—2240 pounds, or about 1000 kilograms, 5 tons being 11,200 pounds. The seller perhaps delivers 10,850 or 11,750 pounds, if in casks, or 200 to 300 pounds over or under, if in cases, and if in bales, one bale over or under would be about correct, although sometimes from one to three tons are delivered or cancelled by sellers without an understanding with the buyer, but many times the seller overdelivers on a rising market, to equalize one on a falling.

Weighers sometimes make mistakes and, as they at times have hundreds of cases to weigh, and a 5 ton lot is about 32 cases of 350 pounds. But suppose he weighs up 32 cases and finds that they average 360 pounds; there would be an over delivery of 320 pounds. Again, if they should deliver a dry lot and the market was advancing—32 case year store cases average weight of 332 pounds making 10,624, or a shortage of 576 pounds. When the weigher gets back to his office and figures up he finds these differences, but the rubber has been forwarded and it is too late to make the corrections. They sometimes err to the amount of 1000 or 2000 pounds.

If a contract is made to take a certain lot of about 5 tons to

arrive, and it turns out 4 tons or 6 tons, it has become the custom to call the contract filled, and the buyer takes any excess and the seller does not expect to make up to 5 tons if it falls short. Any difference of quality is usually adjusted on the dock or at the factory upon arrival.

IX. If the seller of rubber in the contract cited, under paragraph II., fails to deliver or tender delivery of the rubber on or before the last week day of the month specified, without a mutual arrangement for delay, the buyer should enter the market at once and fill his wants up to the amount covered by said contract at the best prices and terms, and for seller's account and charges, and any loss to be chargeable to seller.

If the buyer waits a week or a month before covering his contract, and the price should then have advanced 2 or more cents a pound since the first, then the buyer can only recover on the basis of the price on the first of the month, and not the full advance.

BAY STATE.

October 7, 1901.

NEW PHILIPPINES TARIFF.

THE revised "Customs Tariff of the Philippine Archipelago," as enacted by the United States Philippines Commission, has been promulgated officially, to go into effect on November 15. Its promulgation at this time may be regarded as an indication of the faith entertained by the war department that the supreme court will take the same view in regard to the constitutionality of revenue relations with the Philippines as it did in the case of Porto Rico.

The principal provisions in regard to rubber are contained in the following paragraph—"N. W." denoting net weight:

352. Caoutchouc and Gutta-percha manufactured into any kind of article not otherwise provided for: (a) Rubber hose and piston packing, N. W., kilo, \$0.03; (b) hard rubber articles, not otherwise mentioned, N. W., kilo, \$0.50; (c) boots and shoes of rubber, N. W., kilo, \$0.25; (d) all other articles, except hose of rubber and textile, N. W., kilo, \$0.20; (e) hose of textile and rubber, N. W., kilo, \$0.10.

Other provisions are contained in the paragraphs following:

[Cotton Schedule]. 135. Waterproof or Caoutchouc stuffs on cotton textiles, or elastic textiles manufactured with threads of gum elastic, N. W., kilo, \$0.15.

[Linen Schedule]. 160. Waterproof or Caoutchouc stuffs on textiles of linen or other vegetable fibres, except cotton, or elastic textiles manufactured with threads of gum elastic, N. W., kilo, \$0.25.

[Silk Schedule]. 175. Waterproof or Caoutchouc stuffs on silk textiles, or elastic textiles manufactured with threads of gum elastic, per centum ad valorem, 40.

248. Apparatus and appliances (not machinery) for electric lighting and power: (a) - - - insulating coils; and all insulating materials not elsewhere expressly provided for, N. W., 100 kilos, \$3.00; - - - Only articles used exclusively in the generation and distribution of electric currents for light or power shall be classed under this number.

339. Combs: (a) Of horn or India-rubber, N. W., kilo, \$2.00; - - -

In the free list appears:

395. Submarine telegraph cables.

The following calculation gives the equivalent rate of duties in gold, per 100 pounds, net weight, on the articles referred to in the preceding classification:

Rubber hose and piston packing.	\$ 1.35
Hose of textile and rubber.	4.55
Rubber boots and shoes.	11.36
Hard rubber combs.	90.90
Hard rubber, not otherwise specified.	22.73
Other rubber and Gutta-percha.	9.09
Goods in cotton schedule.	6.86
Goods in linen schedule.	11.36
Insulation for light and power plants.	135.45



FRENCH SOUDAN AS A SOURCE OF RUBBER.

THE widening of the French sphere of influence in Africa promises to have an important bearing upon the question of rubber supplies during the next few years.

Within a recent period colonial administrations have been developed in Senegal, French Congo, and French Guiana—not to mention Madagascar—to a degree that has fostered the investment of French capital in commercial and industrial enterprises in those regions, and led to the establishment of direct lines of shipping to French ports, and the creation of markets in those ports for colonial produce. As in the case of the English, Belgian, and German possessions in the middle third of Africa, the exploitation of India-rubber has appealed to the French administrators and traders as affording the readiest means of developing commerce in their new colonies, since the high values of this commodity permit it to be transported over long distances at a heavy cost.

All reports are to the effect that the French colonies referred to, so far as they have been explored, are as rich in rubber as any other section of Africa, the Congo Free State not excepted. The latest development in this connection has been in the region known as the French Soudan, embraced in the colony of Senegal, and lying west and north of the river Niger. This region adjoins the British Niger territories, which for several years have yielded considerable rubber. The colony of Senegal has exported rubber for a dozen years or more, from its capital and chief port, Saint Louis, at the mouth of the Senegal river. To this port, by the way, and to other French ports on the West African coast, has been diverted, since the growth of French enterprise on that coast, no small amount of the rubber business which formerly centered at the British

port of Sierra Leone, this being one explanation of the decline in the amount of so-called "Sierra Leone" rubber coming into the markets.

The headquarters of the rubber trade in the French Soudan is the town of Kayes, at the head of navigation on the river Senegal, and which is the official residence of the military commandant of that district. Under the auspices of the military rubber has been gathered, both for the discharge of the taxes due from the natives, and also for the instruction of the natives in a profitable employment. The authorities have gone so far as to establish at Kouroussa, in the same district, a school to which natives from various parts of the country are brought for instruction in the proper extraction and coagulation of the rubber latex. Two reports of value have been made on the French Soudan rubber. One is by Monsieur Chevalier, a botanist, to the military commandant, on the character and distribution of the rubber plant found in the district—a creeper known locally as the "gohine." The other report is from Monsieur H. Hamet, the head of a scientific commission appointed by the governor of the colony to report on the rubber situation from a practical standpoint. The information thus collected is of a most promising character.

The rubber creeper here is that designated by the botanists as the *Landolphia Heudelotii* (it has been described also as *L. Senegalensis*), and it appears thus far to be confined to the region in question, though the rubber produced doubtless has the same general character as that yielded by other species of *Landolphia*, elsewhere in Africa. M. Hamet reports, however: "The Soudan rubbers compare favorably with those from the Belgian Congo, having all their purity, resistance, and nerve,

and they also have greater resistance to heat." He found on an average from 40 to 60 of the creepers to an acre, of which from 16 to 25 would be larger than a man's arm. A creeper 10 years of age yields as many gallons of *latex* per year, containing 28 to 30 per cent. of Caoutchouc.

M. Hamet reports* some details in regard to coagulation which may prove of interest as leading in time to the treatment of African rubbers which will develop their best possible qualities. The *latex* of the "gohine" creeper, he says, "consists of two parts:

"(1) The liquid containing the rubber proper, with albuminoid matter and a vegetable wax.

"(2) The serum, which contains the constituent water, mineral matters, and azotized [nitrogenous] matters, which the rapid fermentation of the *latex* carries off before any coagulation takes place. On the other hand, these matters imprisoned in the bitter waters tend to deteriorate the rubber. It is these fermentable agents that it is absolutely necessary to destroy either before or during the coagulation.

"These two operations are effected by one stroke by using fluoride of sodium—antiseptic and very strong—in the proportion of 2 per cent. of the weight of the *latex*."

There are, it seems, other antiseptics, including ammoniacal acid, which do not coagulate, but coagulation may be effected by various means: (1) Mechanical or centrifugal; (2) heat; (3) smoking; (4) chemical agents—as sulphuric or oxalic acids; and (5) decoctions of native plants. Such decoctions have been left to stand over night and filtered through a cloth the next day, and then warmed to the boiling point before being added to *latex* previously aseptized. The result is said to have been the coagulation of a rubber of the very first quality.

Without regard to the output of rubber from other portions of the colony of Senegal, M. Hamet gives the following statement of the value of exports from southern French Soudan:

In 1895.....	2,217	francs.
In 1898.....	322,586	"
In 1899 (partly estimated).....	1,600,000	"

In the latter year the production was estimated at 400,000 kilograms (=880,000 pounds). No doubt it has since become much larger. During several months past the arrivals of Soudan rubber at Bordeaux alone have been at the rate of 835,000 pounds a year, and Soudan rubber is received also at the French ports of Havre and Marseilles. The above estimates of values are on a basis of 4 francs per kilogram (=35 cents per pound.) Such rubber, however, brings a much higher price in the consuming markets, as indicated by the prices obtained at Bordeaux, reported in the last INDIA RUBBER WORLD, equivalents in American money being supplied for the French prices:

	Francs (Kilo.)	Cents (Pound.)
Soudan twists, fine.....	6.80@7	59.6@61.4
Soudan twists, ordinary.....	6.	52.7
Soudan niggers, fine.....	6.50@6.75	57. @59.2
Soudan niggers, ordinary.....	5. @6.	43.9@52.7

Respecting the Caoutchouc market at Bordeaux, a correspondent there writes to THE INDIA RUBBER WORLD: "The market here is all the time extending, and lately the Americans have—by the intermediary of Liverpool houses—bought almost all of the Soudan lots that were for sale. Why don't the Americans come directly to Bordeaux and buy?"

Small lots of Soudan rubber have been arriving in the New York market for several months past. The quality has been satisfactory, and good prices have been realized. A member of the importing trade informs THE INDIA RUBBER WORLD

that the quality is equal to that of the best "red Massai" rubber received from Sierra Leone, and predicts a steady demand for the new grade if the present quality is maintained. The best grades have sold in New York at 63 cents per pound—a trifle higher than the latest quotations reported from the Liverpool market.

A NEW RUBBER FROM PERU.

INTEREST is being manifested in Peru, since the decline in the production of Caucho in that country, in a new product, which locally has been termed Gutta-percha, though its nature is that of India-rubber. It is, in fact, as represented to THE INDIA RUBBER WORLD, the product of a tree apparently of the *Hevea* family, which embraces also the Pará and Bolivian rubber trees. This tree, which has been found only of late to yield rubber, is mentioned as being very abundant, existing in the forests nearest to Iquitos, and being found up the Marañon, and up the Ucayali as far as the Pichis river. These locations indicate that the tree is found at higher altitudes than the Pará rubber of commerce. The trees are worked in *estradas* and the *latex* is smoked. Little is known to have been done in the way of exploiting this new rubber, but samples sent to Liverpool are reported to have been valued at about 10 per cent. less than fine Pará. Iquitos merchants are advising the collection of this rubber on a large scale, and the chamber of commerce of that city has issued a circular to rubber collectors to the same effect.

THE works in England of the ill fated Gutta-percha Corporation, Limited—formed in 1897, with £200,000 capital, to extract Gutta-percha from the leaves of trees—have fallen into the hands of Campbell P. Ogilvie. According to the *South American Journal* (London) Mr. Ogilvie is a man of scientific attainments who is familiar with South America, and he believes that he has discovered in the Amazon river country a Gutta percha producing tree of value, the leaves of which he purposes treating at the works referred to above. No details regarding this tree have been made public.

A NEW RUBBER FROM HONDURAS.

A SAMPLE of rubber from Honduras, submitted to the Editor of THE INDIA RUBBER WORLD by Messrs. Eggers & Heinlein, importers, of New York, is apparently very similar to any of the good grades of Central rubbers. It is quite tough and dry, and was undoubtedly coagulated in a shallow hole in the ground, as it has a very strong earthy smell and the outside has clinging to it both earth and vegetation. The same firm send sections of the growth from which this grade of rubber is produced, but they are not sufficient to indicate the botanical species. It recalls, however, the publication in THE INDIA RUBBER WORLD of May 1, 1901 [page 234], of a report that there had been discovered in the department of Yoro a vine or creeper, supposed to be similar to the *Landolphia* creepers of Africa, and said to produce rubber of a good quality. The samples submitted by Messrs. Eggers & Heinlein evidently are from this source.

THE W. D. Allen Manufacturing Co. (Chicago) recently offered a prize of \$25, to be awarded in the high school of Evanston, Illinois, for the best essay on the "Life and Inventions of Charles Goodyear." The prize was won by Gordon Scott Fulcher, whose essay, which has been printed in full in the *Chicago Shoe Trade Journal*, evinces painstaking investigation of his subject and intelligence in the handling of the facts.

* *Memoires de la Société des Ingénieurs Civils de France*, Paris, 1900, page 287.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

FROM all accounts those few British firms who have entered on this branch, find it a profitable business, as there is no difficulty in obtaining a market for their output. It is recognized that this manufacture is especially one which demands the greatest care and oversight, as it

RUBBER
SHOE
TRADE.

is easy enough to turn out bad work—a result, the seriousness of which need not be emphasized, looking at the small profit on the individual articles.

Perhaps it is the disastrous results which attended the efforts of one of our largest factories in this direction, and which quickly led to an abandonment of the business, that have weighed heavily with others whose thoughts have inclined that way; but whatever the reason for the abstention, the only firm who have gone into the business of recent years is Frankenburg's, and from all I hear the period of comparative repose in which they have been feeling their way amidst the shallows that abound, has now been succeeded by an era of prosperity in which they find their capacity for production fully taxed. The North British Rubber Co. are still far and away the largest producers, and will, no doubt, remain so. Apropos of China being a large buyer of their products, I was rather surprised to hear from a gentleman who knows the country well, and who had gone through the lively experience of the siege of Peking by the Boxers, that the use of rubber shoes by the lower classes in China is quite of modern growth. The people never wear leather, and their ordinary footwear is made of paper, with or without a wooden sole. It would seem, therefore, that the rubber shoe has not by any means reached the limit of its possible sales in the Flowery land, and no doubt the sales will show an increase during the period of quiescence which is now setting in. Though not particularly germane to the subject, I may say that I have heard somewhat adverse comments made as to the way the British have allowed the Germans to establish themselves in the commerce emanating from Shanghai, though this does not appear to apply to the rubber shoe trade. I understand that the North British company are building additional premises for this branch, as the business has made such rapid strides of late. With regard to the varnish used by British manufacturers, it appears that in some cases there is room for improvement, and they are willing to treat with those who have, or think they have, special knowledge in this line.

As a rule in Great Britain it is a somewhat difficult thing for a visitor to get shown round, even if he has no connection at all with the trade, though perhaps there is not

VISITS
TO WORKS.

so much secrecy about the operations as some manufacturers seem to fondly imagine. Of course

every one has a right to please himself as to the strength of the barriers with which his operations are encircled, but there is not perfect unanimity amongst our rubber firms as to the necessity for such precautions. Not long ago, at the general meeting of a large company, the chairman said he would be pleased to show any shareholder over the works, a remark it must be said which did not commend itself as politic to all those who were present. Of course care has to be taken lest the application to view should emanate from one whose motives are of a mercenary nature, and from what I have heard surreptitious attempts on the part of foreigners to gain admittance into our large works have not been at all uncommon. Though not exactly germane to the subject, mention may be

made of the fact that under managers and foremen in large works are as a rule kept strictly to their own departments, and are not allowed to enter work rooms over which they have no direct control. This, considering the changes in personnel which are so frequent in some works, must be considered a commendable precaution, if anything in the form of a secret is to be retained in the place of its origination. Distinguished visitors, of course, do not find any difficulty in satisfying their thirst for technical knowledge, and the autograph book at Macintosh's, which dates back a long time, contains records of the visits of several royal personages.

THE recent establishment of a recovered rubber works in the neighborhood of Liverpool, under American auspices, recalls

RECOVERED
RUBBER.

the suggestion made in THE INDIA RUBBER WORLD from an English source some time ago, that such a works if conducted on a large

scale on American principles would be sure to prove a success. I am writing without any details of the new venture, but presumably the bulk of the raw material will be shipped from America, as otherwise it is difficult to see how it could be obtained in sufficient quantity, in Great Britain, at any rate. No doubt more and more recovered rubber is being used, and in many cases it has displaced the oil substitutes. At the same time the manufacturers of it have increased, and competition is becoming somewhat acute. A prominent London daily paper recently contained an advertisement to the effect that a German house required a good agent in England to collect waste rubber, though this reads somewhat curiously in face of the fact that plenty of German waste is on offer to English recovered rubber manufacturers. It may be said, however, that the somewhat inflated prices asked by the Germans have militated against the progress of their export trade in this article, in England, at any rate, and their ideas on this head will have to undergo considerable modification if a material increase in business is to result. With regard to the quality of the different brands of recovered rubber on our market, it cannot be said that any real progress has been made during the last ten years, and in spite of the fact that two or three new brands have had plenty of time to demonstrate their vaunted superiority the popular verdict on them is certainly not one of undiluted approval.

IN another column of THE INDIA RUBBER WORLD I recently saw a statement to the effect that this journal was regularly

BOTANY
AND THE
RUBBER TRADE.

read at Oxford University and the fact seems to invite a few remarks. For one thing it indicates that headway is being made at this ancient school of learning in the way of disputing the claims of the dead languages to be the only subjects

worthy of study; the movement to modernize Oxford and to widen the scope of studies there is calculated to make deceased Dons turn in their resting places, and certainly such agitation is shared by those of the present day who rightly enough have no wish to see the curriculum of studies approximate to that of a technical school. All the same, seeing how overcrowded are the professions to which the study of classics alone is the open door, what is being done to promote the study of science must be heralded as opportune. It must be remembered that research work in botany cannot easily be carried out by the busy man, even if he had the necessary laboratory accommodation,

and it is all in the interest of the trade that the sort of work that has been done at Oxford and Kew should meet with encouragement. There is perceptible at the present time a greater interest in the botany of the trade than was at one time the case; manufacturers are evincing interest in the names and geographical distribution of the rubber-yielding plants, and there is no doubt that we have commenced an era which in its progress will show the rubber manufacturer more and more cognizant of details which he has hitherto not troubled to acquaint himself with. A thorough acquaintance with structural and physiological botany would of course necessitate the expenditure of a good deal more time than would be justifiable, but in these days of legitimate enterprise in rubber planting the acquirement of a certain degree of botanical knowledge seems to be most desirable. As a general guide to the geographical distribution of rubber trees the map given in the price list pamphlet issued this year by the Dermatine Co., Limited (London), will be found useful for reference, and no doubt before long we shall see something of the sort on a more comprehensive and detailed scale. It may be mentioned that, in addition to the attention that has long been paid to rubber botany at Kew gardens, the Imperial Institute has of late devoted attention to the same subject, as may be seen by a perusal of the proceedings which are issued from time to time for the information of the public. Its research laboratories for investigating the value of newly discovered species should undoubtedly prove of increasing interest and importance.

THE impression that Michelin's agency for motor tires in Great Britain is held by the Dunlop company is not quite correct. It is the Clipper company, which, however, is a distinction without much difference, as Mr. DuCros is a leading spirit in both concerns. As regards the evolution of the motor car the present tendency is to reduce the diameter of the driving wheels and in fact to make all the wheels of equal size. This may seem at first sight to be indicative of a decreased demand for rubber, but it must be remembered that the number of revolutions will be increased, and therefore the wear on the tire will be greater, thus tending to equalize things. With regard to re-rubbing of covers, although this may be successful enough for bicycle tires, motor car owners have come to the conclusion from experience that it is only a waste of money in their case, as the attachment by solution nearly always fails.

THE somewhat dubious policy of exposing rubber to the vulgar gaze in shop windows is evidenced by the rather deplorable condition of the rubber "in its various stages of manufacture" on the framed and glazed show cards issued by the Waterman Ideal Fountain Pen Co. of Broadway, New York. Some of those in our shop windows show in a state of resinous pulp what is emblematically described as rubber sheet, which no doubt it once was.

THE only redeeming feature as regards the trade generally is that coal has come down in price, thus lessening the burden of manufacture a good deal compared with last year. Otherwise there is no mistaking the rather pessimistic tone which is indulged in on all hands, except in isolated cases where special goods are in demand. The cause of the depression is no doubt rightly attributed to the war, which drags its slow length along and which has paralyzed to a great extent many of our industries. Perhaps the fall in the price of metallic oxides, such as those of zinc and lead should be mentioned in addition to coal, as affording relief from the conditions of last year, but of course, however great the reduction in price of chemicals, the matter is only a comparatively

small one compared with the price of rubber or decreased demand for finished products.

MR. BAMBER, recently secretary to Mr. Baxter at the Leyland Works, has been appointed works manager at the St. Helens Cable Co., at Warrington.—It is reported that Mr. Michelin is growing rubber trees under glass in France on an extensive scale. My informant, who, however, is not exactly a rubber expert, seemed to think that it was the intention of the Clermont-Ferrand works to supply their own requirements of raw material at home, and so to avoid having recourse to the tropics. To me, however, there seems to be too much of a Jules Verne flavor about the report—that is, as far as the ultimate object indicated is concerned. The cultivation of the *Ficus elastica* as a greenhouse plant has long been common in Europe, but no question of its utility otherwise than as an ornament has ever arisen.—At a recent inquest held at an explosive factory the cause of death was found to be the inhalation of naphtha or benzol vapors. I don't know that any actual fatality has occurred from this cause in rubber works, but the fact that such vapors cannot be inhaled with impunity unless they are largely diluted with air cannot be too strongly insisted on.—The New York Wheel and Rubber Tire Co. of 377, Kennington road, London, S. E., have recently put down new plant for making solid rubber tires. This firm, of which Oscar Comte de Nevers is the moving spirit, describes itself on its business paper as the largest rubber tire makers in the world. Personally I know nothing which should cause me to consider the statement as an exaggeration, but it occurs to me that firms such, for instance, as the Continental, of Hanover, might possibly have something to say on the point.—At the October sale by tender of condemned stores of the General Postoffice, London, the quantity of Gutta-percha on offer was 38 tons. There is no doubt that this amount will show a marked decrease in future, owing to the substitution of Gutta-percha covered wires by those insulated with paper.

GERMAN ELECTRICAL COMPANIES.

AT a recent general meeting of the Felten & Guillaume Gesellschaft (Mülheim-on-Rhine, Germany), accounts were presented for the 18 months since the company became constituted in their present form. The profits during that period are reported at £400,308 (= \$2,001,545), out of which was written off for depreciation 2½ per cent. on buildings and 12 per cent. on machinery. A dividend at the rate of 10 per cent. for the 18 months was declared, amounting to £225,000 (= \$1,125,000). The distribution was made on a basis of £1,500,000 capital, though the capital account now stands at £1,800,000. The company's balance sheet showed liabilities of £840,000, and bills receivable for £1,147,500.

Mention was made in the last INDIA RUBBER WORLD of the establishment of a branch in Milan (Italy) by the Elektrizitäts-Aktiengesellschaft, vorm. W. Lahmeyer & Co. (Frankfurt o/M., Germany.) They have also established a branch in England, under the title of the Lahmeyer Electrical Co., Limited, with £100,000 capital. The company had previously established branches in Russia and in Norway, the operation of which is understood not to have been profitable. The Lahmeyer company's total capital has increased during six years from £85,000 to £500,000, and it is now proposed to make it £1,000,000. During the last business year the gross earnings reached £215,805 (= \$1,079,025). The dividend distributed amounted to £50,000, or 10 per cent. on the capital of £500,000. During the five years previous the yearly dividends were, respectively, 5, 8, 10, 11, and 11 per cent.

MOTOR
TIRE
AFFAIRS.

EXPOSURE
OF RUBBER.

CONDITION
OF TRADE.

RUBBER TIRES AT A CARRIAGE EXHIBITION.

THE twelfth annual convention of the National Retail Carriage and Harness Dealers' Protective Association was held in New York, at the Grand Central Palace, on October 14-17, in connection with which was held the eighth annual exposition of vehicles and accessories, lasting throughout the week. Whether or not the number of entries may have exceeded those of former expositions, the impression made upon the visitor was that the collection of displays was larger, more complete, and more varied than in any previous year. There were carriage factories represented from over a dozen states, from Michigan to New Hampshire, and the number of styles of vehicles shown, and the character of the finish of many of them, was such as to lead one to doubt any reports that may have been current of a decline in the manufacture of fine carriages in the United States.

Likewise the exhibits of accessories was very complete, including carriage cloths, woolens, springs, forgings, paints, varnishes, lubricants, bells, couplings, poles, shafts, gears, brake shoes, lamps, wooden and wire wheels, axles, dashes, fenders, canopies, harness, whips, robes, horse tonics, and what not. The attendance was good, and to the onlooker it seemed that everybody who entered the building was intent upon business. On the whole, it probably is safe to say that the effect of the exhibition was to lend strength to the policy of continuing these annual displays of products in connection with the manufacturers' conventions.

In the official catalogue of exhibits a separate heading was devoted to "Rubber tires," and if all the displays under this classification had been grouped together, the result would have been an exhibition of no small interest to carriage manufacturers and dealers, and to the rubber trade as well. As a rule these rubber exhibits were not crowded with material. There was ample space for the reception of visitors, and the salient feature of each display was shown prominently, while competent and experienced attendants stood ready to talk business upon every occasion.

Naturally there was not much shown in tires that was strictly new. The prevailing type was, as usual, the wired on solid tire. The endless solid tires, first introduced prominently at last year's exhibitions, again appeared, but not apparently in a larger proportion this year. There were cushion tires in more exhibits than formerly, and the customary displays of pneumatics. There was the usual number of tires which belong to none of the above types—the class of tires that seldom appear at more than one exhibition. In several tire exhibits were shown tire applying outfits, including some novelties. Several of the tire manufacturers also exhibited rubber mats and matting for carriages and automobiles. The tire exhibits, to take them in the order followed in the official catalogue, were:

SAMUEL ALEXANDER (Hartford, Conn.)—The Tuttle solid rubber and cushion tires, mounted without the use of channeled rims, and held in place by a series of bolts with eyes, engaging the retaining wire and going through the felloe.

BROOKE AIRLESS PNEUMATIC TIRE CO. (Denver, Colorado).—A company incorporated recently, under Colorado laws, to exploit a tire patented by M. E. Brooke (who is general manager of the company), and which is described as "pneumatic," though it is not inflated. The internal construction involves a rubber core "which produces riding qualities similar to a pneumatic tire."

CALUMET TIRE RUBBER CO. (Chicago).—Exhibited the "Calumet" solid tire, held in place by a retaining band with beaded edges, and also a "Calumet" applying apparatus, including a special compressor—a powerful but compact little machine.

COLUMBIA VEHICLE TIRE CO. (Boston.)—The distinctive feature of the solid tire shown by this company is a flat locking galvanized tape, jointed mechanically instead of by brazing or welding. The rubber stock is made by the India Rubber Co. (Akron, Ohio.)

CONSOLIDATED RUBBER TIRE CO. (New York.)—Exhibited the Kelly-Springfield solid tire, in all sizes. The company have filled many orders for heavy work, as for fire apparatus and the like. They are using three wires instead of four, as in the past, for large tires. This exhibit embraced cushion tires for the first time in $1\frac{1}{4}$ and $1\frac{1}{2}$ inch sizes. In this display was included also Frank E. Hall's sectional solid vehicle tire.

DIAMOND RUBBER CO. (Akron, Ohio)—An exhibit of solid tires, electrically welded on, in large and small sizes, three wires at the utmost being used; also, cushion tires. The "Diamond" pneumatic tires, as usual, were a prominent feature of this display.

EMERY TIRE CO., INC. (Providence, R. I.)—A pneumatic tire, so called, though it is not inflated, the internal construction consisting of a skeleton core made of rubber, with air cells so arranged as to form air chambers, utilizing the air as a cushion. The core is covered with a rubber casing that may be replaced or repaired without injury to the core.

FIRESTONE TIRE AND RUBBER CO. (Akron, Ohio.)—The tire shown here was of the side-wire type. Another feature of construction is the molding of the stock in a coil of small diameter, by means of which the compression is brought onto the wearing surface of the tire. The exhibit embraced a machine for applying the tires, which appeared to be simple in construction and easy of operation.

GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio.)—This exhibit embraced solid tires of the wired on type, both of the ordinary form and also the "Wing" section, patented by the company; endless solid tires; cushion tires; and pneumatic tires. There was also a new tire machine, the introduction of which the company is pushing actively.

HARTFORD RUBBER WORKS CO. (Hartford, Conn.)—Here were the well known "Hartford" single tube pneumatic carriage tires, the ordinary wired on solid tire, the "Turner" endless tire. This exhibit also included the Dunlop pneumatic carriage tires, since the Dunlop goods are now manufactured at Hartford, instead of there being, as formerly, a separate Dunlop exhibit.

INDIA RUBBER CO. (Akron, Ohio.)—An exhibit embracing two wired solid tires, Wheeler endless solid tires, cushion tires, and pneumatic carriage tires, and also a special equipment for mounting the company's various solid tires.

INTERNATIONAL AUTOMOBILE AND TIRE CO. (New York.)—In addition to the wired on solid and pneumatic solid tires made by this company, their exhibit embraced the Lattina cellular tire, which they manufacture for the Rubber Tire Co., Inc. (Philadelphia), and the Kempshall tire. Also, a new tire applying equipment patented by H. W. Keyes, who is connected with the company.

KOKOMO RUBBER CO. (Kokomo, Indiana.)—Solid wired on

tires of the usual form of construction, for carriages and automobiles; also, cushion tires.

MORGAN & WRIGHT (Chicago).—This exhibit embraced solid tires, with two wires, larger than in some other makes; solid tires fastened on with retaining bands; and double tube pneumatic tires. The company have always been in position to fill orders for cushion tires, but this year are making a feature of the latter.

NEW JERSEY CAR SPRING AND RUBBER CO. (Jersey City, N. J.)—The "Wemaka" solid vehicle tire, held in place both by a longitudinal wire and by a system of cross wires.

NEW YORK BELTING AND PACKING CO., LIMITED (New York).—Here was shown the "Long Distance" pneumatic carriage tire which this company have been marketing for a year or more past.

STANDARD ANTI-FRICTION EQUIPMENT CO. (New York).—This exhibit embraced, in addition to other carriage accessories, the "Star Brand" wired on solid tire, sold by the Batavia Rubber Tire Co. (Batavia, N. Y.)

STRAUS RUBBER AND TIRE CO. (New York).—Wired on solid tires and horseshoe pads.

VICTOR RUBBER TIRE CO. (Springfield, Ohio).—The "Victor" wired on solid rubber tire, with insulated holes through which the wires pass—a specialty of this company. Also, the "Victor" tire applying machine.

The above exhibitors, for the most part, were represented at the meeting of the Carriage Builders' National Association, held in Cincinnati, during the week following.

ALL ABOUT RUBBER IN BRIEF.

AFTER hearing about rubber for the first time, a reporter for the Pittsburgh Dispatch, writing for his paper, quoted his informer as saying what follows, and printed it as fact:

"Within the past three years the demand for rubber has increased over 400 per cent. Formerly the supply forest for this country and almost the entire world was at Pará, Brazil. The increased use of rubber, however, has devastated these forests, and now the country has to depend greatly on Mexico. Fifteen years ago the company with which I am connected purchased 30,000 acres of land at the isthmus of Tehuantepec and planted 300 trees to the acre. They are now bearing. Rubber, as grown in Mexico, costs 6 cents per pound, and delivered at New York at 10 cents. It is sold there at 80 cents per pound."

The able Havana (Cuba) Post has also been edifying its readers on the subject of rubber, as follows: "The rubber product of the Siphonia caucha tree, which is called Gutapercha, according to Mr. Charles Goodyear, has many applications in medical science, in machinery, submarine cables and telegraphy; substituting the other materials, as leather, whalebone, tortoise shell, ebony, etc.; rubber tires for cabs, automobiles, bicycles, and articles for ladies' use are made with this product."

THERE were exported from Great Britain during the first nine months of this year, 1,186,092 pairs of "Caoutchouc Boots and Shoes," of the value of £128,470 (= \$623,079).

RUBBER NOTES FROM EUROPE.

THE report of the Vereinigte Gummiwaaren-fabriken, Harburg-Wien, for the business year 1900-01, refers as follows to the recent strike in the company's factory at Harburg:

"Unfortunately, the good will and harmony existing among our working-men since the factory began to exist, has been interrupted during the last year by a partial strike, that broke out on March 19 in our shoe department in Harburg. The same culminated in the proclamation of a general strike on May BALANCE SHEET, JUNE 30, 1901.

VEREINIGTE GUMMIWAAREN FABRIKEN, HARBURG-WEIN.

ACTIVE.		PASSIVE.	
Fixed Property.....M	2,749,931.38	Share Capital.....M	6,000,000.
Land.....	847,698.68	First Emission.....	4,500,000.
Water Power.....	179,707.90	Second Emission.....	450,000.
Buildings.....	1,722,514.80	Third Emission.....	1,050,000.
Movable Property.....	1,702,914.82	Reserve Fund Account.....	3,101,865.
Machinery.....	1,361,751.50	Second Reserve Fund Account.....	375,250.44
Utensils and Furniture.....	341,103.32	Security Account:	
Material and Manufactured Goods..	4,094,703.49	Hypothecated for Bank Credit,	
Raw Material.....	2,887,583.42	not at present in use.....	450,000
Finished Goods.....	1,207,120.07	Dividend Account.....	7,545.
Cash, Bills of Exchange, and Effects.	358,896.70	Dividends outstanding, 1899-00	3,240
Cash.....	39,764.09	Dividends outstanding, 1900-01	4,305
Bills of Exchange in hand..	307,591.79	Credits.....	2,003,128.09
Stock.....	11,540.82	Profit and Loss Account.....	1,513,842.64
Debits.....	4,095,134.78	Balance from 1899-1900.....	24,305.59
		Net profit for 1900-1901.....	1,489,537.05
Total.....M	13,001,631.17	Total.....M	13,001,631.17

10. As it was not a question of wages, but solely of power, we had to fight the strike most energetically, so as not to endanger the discipline in our works, and hence the profits of our business. We had the satisfaction that on June 17 the strike was declared off, without any proposals on the part of the workmen. Of course we have kept up our production during the strike, having enough hands willing to work upon the terms offered by ourselves, the latter figuring among the most favorable in our industry. We were enabled therefore to give satisfaction to our customers, supported as we were by our branch factories at Linden and Wimpassing, as well as by some of our competitors. Our principal customers, corporations and private, allowed for delays, that had become inevitable for deliveries by the conditions existing. We herewith express to them our thanks for their support and kind indulgence. At present we are working again satisfactorily at our Harburg works, and will hope that the deplorable consequences of the strike will serve as a lesson to our workmen, and that in the future the same good understanding with them may prevail that we enjoyed before, and that has been always aimed at by ourselves. In consequence of the strike we were obliged to build barracks in our Harburg works which since termination of the strike, are being used as canteens and dining rooms. At the same time we connected with them washrooms and baths for our employés."

=The Hamburg-American line of steamers, having already inaugurated a monthly service between Hamburg and Manáos, are reported to have decided to engage more fully in the carrying trade of the Amazon. They are said to have planned to place six new steamers on the Amazon, to run up-stream as far as Iquitos, in Peru, and also to place a floating dock at Pará. It is evident that the relative importance of the Amazon Steam Navigation Co., a British company, which at one time had a practical monopoly of the local Amazon trade, continues to decline—a result which is to be attributed mainly to bad management during the years when the possibility of competition seems not to have been thought of. One effect of the new German enterprise referred to above will be to promote the growth of Hamburg as a crude rubber market.

RUBBER PLANTING IN MANY LANDS.

PLANTATIONS LACOURT (CONGO FREE STATE.)

AMONG the Belgian enterprises exploiting rubber in the Congo Free State is the Société Anonyme Plantations Lacourt, founded in 1899 with a capital of 800,000 francs. The report of the company for the fiscal year ended March 31, 1901, devotes considerable space to their plantation of rubber creepers—one of the *Landolphia* species from which the Congo rubber is obtained. The rubber plantation embraces 355 hectares (=877 acres), on which 800,000 creepers have been set out. In cases where the first planting failed to give good results, new plants have been substituted. Some of the plants have reached a height of 3 meters within the first year, and all are now reported in good condition. The company's report quotes M. de Smet de Naeyer, president of the ministerial council of Belgium, as saying in the senate, on April 2 last, in regard to plantations in the Congo Free State:

"The steps taken for the replanting of Caoutchouc have caused the putting into nurseries or into permanent position of more than 3,000,000 rubber creepers, representing a value of 1,600,000 francs [= \$308,800]. The replanting of these creepers proceeds at the same rate as the exploitation of rubber,* which will have the effect of maintaining perpetually the ample native supply of rubber, notwithstanding its exploitation."

At the above rate of valuation the Lacourt plantation of 800,000 creepers would be worth 400,000 francs (= \$77,200), though in the judgment of the company this figure is much too low. The report of the company last year contained the following statement by their administrator-delegate:

"We know that the forests [in the Congo] most rich in Caoutchouc creepers do not on the average contain more than 5 plants per hectare [about 2 per acre]. We also know that under proper cultivation may be secured 2000 creepers per hectare [or 800 per acre.] Moreover, these creepers will produce, at the end of six or eight years, a minimum of 50 grams [about 1¾ ounces]. Allowing 20 per cent. deduction, for missing or sickly plants, the yield of one hectare would be 80 kilograms the first year [about 71 pounds per acre], and this would increase with the further growth of the plants."

These remarks are quoted in the current report, with the assertion that the rate of yield referred to can be looked for at the end of five years—or six, at the latest. Hence they should be able to gather, from their 355 hectares, in the sixth year, 32 tons of rubber of better quality, because better prepared, than the rubber now obtained from the natives, while continuing to trade in rubber with the natives.

The company have made experimental plantations of Pará and Ceará rubber, but their first effort with the *Castilloa elastica* was not successful, owing to the failure of the seed to germinate. They have planted also 148 acres of coffee, and smaller areas in cacao, vanilla, etc., besides food crops.

LOS ANDES RUBBER, LUMBER, AND FRUIT CO.

[Plantation: Motagua valley, Guatemala. Offices: London and Liverpool and Globe building, New Orleans, Louisiana.]

INCORPORATED under Louisiana laws; capital, \$100,000; to exploit 12,500 acres, on the railway between Morales and Los Andes, Guatemala. The cultivation of rubber is to be the main object, but, pending the development of the rubber, bana-

nas and other crops will be planted, and the lumber on the estate is to be marketed. There is also wild rubber on the property. Some rubber has been planted in this region, and the Los Andes company have contracted for young trees for next season's planting. It is expected, ultimately, to set out 450,000 rubber trees. The stockholders of the company are substantial business men of New Orleans. Charles Dickson is president, William J. Kearney vice president; Charles A. Schrieber treasurer, and George Montgomery, secretary. The general manager is H. J. Earle, of New Orleans, who of late has devoted much interest to Guatemalan interests. On October 17, the organization of the company and its plans having been completed, Mr. Earle started for Guatemala to take charge of the plantation. He had arranged to take 50 men from British Honduras, all additional laborers needed to be drawn from the vicinity of the estate.

MONARCH RUBBER PLANTATION CO.

MENTION was made in the September INDIA RUBBER WORLD [page 371] of the interest of President Harry E. Wagoner, of the Monarch Rubber Co. (St. Louis) and his associates in the company, in the prospects for rubber planting in Honduras. On September 26 they filed articles of incorporation, under Missouri laws, of a company with the name stated above. The declared purpose is the acquiring and cultivation of lands for the production of rubber, and for the purchase and control of vessels for the conveyance of products and supplies. The capital is \$150,000, divided into 200 shares of 7 per cent. preferred stock and 1300 shares of common stock. Each of the following holds 40 shares of preferred and 260 shares of common stock: Harry E. Wagoner, Edward H. Gorse, George H. Augustine, Roger Hayne, and Morris G. Levinson. The location of the plantation will be near the mouth of the Black river, on the northeastern Honduras coast.

BOSTON TROPICAL CO.

ARTICLES of incorporation were filed September 30, under Rhode Island laws, for the above company, with \$300,000 capital. The purpose is the growing of India-rubber, coffee, oranges, pineapples, and other tropical products, and the building and acquiring of boats needed in the company's business. The incorporators are William H. Chase and Alfred N. Litch, of Leominster, Massachusetts; Harry W. Barclay, of Newark, New Jersey; and Charles A. Deveraux, of Boston. The company will have an office at No. 17 Blagden street, Boston, and one at Providence, Rhode Island. A tract of 2500 acres has been secured on the isthmus of Tehuantepec, along the Solosuchie river, which leads to the port of Coatzacoalcos. It is planned to devote 1000 acres to rubber and as much more to coffee.

A PASTOR AS A RUBBER PLANTER.

SOME dissatisfaction is reported in the congregation of the Free Baptist Church, at Melrose, Massachusetts, regarding the alleged conduct of the pastor, the Rev. G. M. Howard. The church was organized eight years ago, through Mr. Howard's efforts, and an edifice erected on which there is still a debt. Rather than appeal to his congregation for more money, the pastor is said to have decided to go into some outside business, as a means of raising funds, and he chose rubber planting in Guatemala. According to the Boston *Post*, the estate selected is "La Gomora," 70 miles from Guatemala city, where many

*The law requires the planting of rubber to a certain extent for every ton of rubber exported from the Congo Free State.—THE EDITOR.

rubber trees have already been planted, with the idea of increasing the number to 1,000,000. The Rev. Mr. Howard is said to have been aided in forming his rubber company—reported to have \$500,000 capital—by the United States consul general in Guatemala, James C. McNally, a Pittsburg man. Meanwhile the church debt is embarrassing, no profits having been derived from the pastor's rubber plantation, and an investigation has been started.—In June last Consul General McNally, while visiting Boston, was quoted by the press of that city as being favorable to rubber planting, saying: "Gentlemen here in Boston I know have interested themselves in 10,000 acres of rubber lands in Guatemala," but he didn't refer to any church-debt-raising annex to the enterprise.

RUBBER LANDS AS AN INVESTMENT.

A GROUP of capitalists of Indianapolis and Pittsburgh have purchased a tract of 18,000 acres of rubber lands in the state of Oaxaca, Mexico, about three miles distant from the property of the Obispo Rubber Plantation Co. The parties referred to are understood not to be planning to plant rubber, but they have bought the lands as an investment, with the idea of not offering the same for sale within four years. Evidently their idea is that a substantial advance is in prospect for lands suited for rubber planting.

RUBBER TREES IN CUBA.

THE Havana *Post* states that Jose Gabriel del Castillo has growing on his plantation in Cuba hundreds of rubber trees, introduced from different countries, some of which are 65 years old. Also, that Martinez Castro, son in law of the proprietor of the Inglaterra Hotel, in Havana, who is interested in the plantation above named, is prepared to fill orders for young rubber plants.—THE INDIA RUBBER WORLD has received an inquiry for the addresses of persons who may be prepared to supply young rubber trees for planting in Cuba.

PARA RUBBER IN NORTH BORNEO.

HENRY WALKER, writing to the *British North Borneo Herald*, states that on May 28 he visited a plantation of Pará rubber trees, started in 1898 by W. E. Roberts, general manager of the North Borneo Trading Co., on the company's account. About 40,000 plants had been imported, of which 30,000 were living. The importation of seed had not been successful. Trees a little over 2½ years old were 7½ inches in circumference, 3 feet above the ground, and some of them 20 to 25 feet high. A plantation of 4000 Kalapei Gutta-percha plants has been made by the same company. Their location is in the Seekong valley.

THE SAN PABLO CO.

[Estate near San Pablo, Mexico, on the railway to the Gulf coast. Offices: Marquette building, Chicago.]

THIS company has acquired a large tract of land, containing mahogany, cedar, and logwood, the marketing of which will be the first interest of the company. They expect later to plant various crops, and engage largely in grazing. They expect also to develop a rubber interest, beginning with the extraction of the native rubber and Chicle on their lands. Hilton M. Letts is the manager at San Pablo.

RUBBER PLANTING COMPANY PUBLICATIONS.

TABASCO Plantation Co., Minneapolis, Minnesota=[Prospectus] 32 pp.+map.

Tehuantepec Rubber and Commercial Co., Chicago=*Castilloa elastica*, 28 pp.

Aztec Plantation Co., Chicago=Quarterly Bulletin, No. 2—April, 1901. 4 pp.

The San Pablo Co., Marquette building, Chicago.=Report of H. M. Letts, Manager (on a visit to the company's lands in Mexico.)

YIELD OF THE PARA RUBBER TREE.

COMMENT was made in the last issue of THE INDIA RUBBER WORLD, on the paucity of data bearing upon the normal yield of rubber from the Amazon valley species which yield the so-called Pará grades. There have since come to hand some figures, compiled by a recent observer, which appear to be trustworthy, though they tend rather to confuse the matter, since they settle nothing beyond the fact that the rubber yield per tree in the Amazon country is most variable.

By the way, in the article published last month, the rubber tapping season was given at about 180 working days, and the calculations made in the article were based upon the idea that the trees were tapped daily during the season. The later information, however, brought from the upriver districts, is to the effect that the general practice is to tap the trees only on alternate days, so that each tree will be bled only about 90 to 100 times per season.

Figures collected on three important rubber estates give the following average yield of rubber per day, per *estrada* of 100 trees:

No. 1—On the Juruá.....	5 pounds.
No. 2—On the Acre.....	10 "
No. 3—On the Purus.....	16 "

Assuming that this average was maintained for 90 days, the annual yield per tree would be, according to the above figures, 4½ pounds, 9 pounds, and 14½ pounds, respectively. This wide difference in yield is accounted for by the fact that the estate first on the list has been closely "worked" for several years, the second for a shorter period, while the last mentioned has only been recently opened and the trees are still fresh. On the estate yielding only 5 pounds per day per *estrada*, it is now difficult to hire *seringueiros*, while on the more prolific properties all the help needed can be had without trouble.

We have also a report from an estate on the Purus, where 10 men collected last year 20,170 pounds of rubber, or 2017 pounds per man. The number of trees is not mentioned, or the length of the working season, but with 100 trees per *estrada*, tapped on alternate days, 90 times each per year, the result would be 22.4 pounds daily per man, and 10 pounds yearly per tree. Our informant insists that no business in gathering rubber could be carried on, based on a yield so small as estimated by the British vice consul at Manaus—Mr. Temple—of 1.1 to 3.3 pounds of cured rubber per tree per season.

"CASTILLOA ELASTICA" FROM CUTTINGS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have heard various opinions as to whether *Castilloa elastica* will grow from cuttings. My own experience is that planting from cuttings will be successful, though I have not planted from cuttings more than in an experimental way. A specimen is submitted herewith—the stalk of a six months' rubber seedling which was broken by accident and thrown down between the rows at the nursery in Jamaica, belonging to the South American Land and Exploration Co., Limited. The stalk took root without any further care—very strong evidence that *Castilloa elastica* can be established from cuttings where the conditions are favorable and moisture abundant. FRANCIS C. NICHOLAS.
New York, October 25, 1901.

[THE specimen referred to is well rooted, and apparently was as vigorous when finally taken up as a plant of the same age grown from the seed.—THE EDITOR.]

DEATH OF CHARLES L. JOHNSON.

CHARLES L. JOHNSON, general manager and director in the United States Rubber Co., director and treasurer of The L. Candee & Co., and director in the Boston Rubber Shoe Co., American Rubber Co., Goodyear's India Rubber Glove Manufacturing Co., and Glenark Knitting Co., died at his home in New Rochelle, New York, on the afternoon of Tuesday, October 8. His death, which was exceedingly sudden, was due to an apoplectic stroke, a slight forerunner of which manifested itself in an attack of vertigo and a fall a few days previously, and to which he attached but little importance. A second and more serious attack on the following Monday morning resulted in his death on the next afternoon. The end came peacefully and painlessly, with only a brief interval of consciousness after the second stroke.

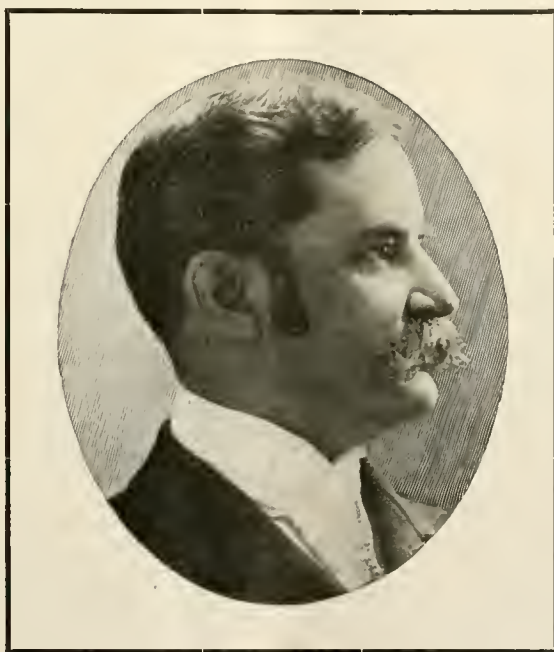
Almost from his entrance into the rubber business in May, 1873, Mr. Johnson was a prominent figure in the rubber shoe trade. It is, therefore, interesting to review briefly the record of a life that has so suddenly terminated. Mr. Johnson was born at Ansonia, Connecticut, one of the most thriving places in the Naugatuck valley, on March 15, 1850. His father, David T. Johnson, was a well known constructor and builder, his reputation extending throughout the state. He was also a volunteer in the civil war, and at its close returned home a captain. Naturally the son, at that time fifteen years of age, sought a military career, and applied for appointment to West Point. In that, however, he was unsuccessful, but it is interesting to note that all through his life

Mr. Johnson kept up an interest in the army, and thought a military career an ideal one. At the age of 18 he entered the Sheffield Scientific School at Yale College, and was graduated in 1872 with high honors. That he was not only a brilliant scholar, but an exceedingly popular and entertaining young man, is proved by the fact that, for years after his graduation, when ever there was a class or society dinner, "Charlie" Johnson was always in demand to make the best and wittiest speech and to arrange in making the occasion in every way enjoyable. After his graduation, he served for a very short time as clerk in the Ansonia postoffice, in the meantime looking for something better, which came in the offer of a clerkship in the office of the Candee Rubber Co., in New Haven. Almost instantly Mr. Johnson made his mark in the Candee company. It seems that his rare business instinct grasped the details of the factory records so thoroughly, that he was able to inaugurate a new system that did away with a great amount of detail work. The company appreciating this, and other practical suggestions, elected him as secretary after he had been but one short year in their employ. Four years later he became treasurer of the

company, which office he held up to the day of his death. While residing in New Haven and filling the offices mentioned, Mr. Johnson familiarized himself with the manufacture of rubber shoes, and it therefore happened that when, in 1887, he assumed the general oversight of the selling of the Candee output and visited the general trade, he was remarkably fitted to understand and suit the wants of their customers. When, in 1892, the Candee company entered the United States Rubber Co., Mr. Johnson was elected a director in the larger company, and was also made its secretary and placed over the selling department, with the official title "Director in Charge of Sales." In 1898, feeling the strain of long continued work, he resigned,

and took an extended trip abroad. His resignation as "Director in Charge of Sales," however, was not accepted, and he continued in charge of the selling department until the May election of the present year, when he was made general manager of the company.

Mr. Johnson's funeral was held at the Johnson homestead in Ansonia, on Saturday, October 12, at 1 P. M. The services were held in Christ (Episcopal) Church, preceded by a brief service at the home of his sister. The L. Candee & Co. closed its mills on the day of the funeral, and the New York and Boston offices of the United States Rubber Co. were open only for the transaction of necessary business. Prominent members of the rubber trade from all over the country attended the funeral, among them being all of the officers of the United States Rubber Co., the members of the executive committee, and many the directors. The honorary pall-



CHARLES LEWIS JOHNSON.

bearers were: President Samuel P. Colt, Vice President Lester Leland, Treasurer James B. Ford, Director Henry L. Hotchkiss, ex-Postmaster General Gary, George A. Lewis, ex-Secretary F. W. Holden, and A. H. Bartholomew. The acting pall-bearers were: H. M. Sadler, H. E. Sawyer, E. H. Paine, C. J. Pike, A. C. Coe, and J. M. Gallaway. Many other representative rubber men were there, among them being, President Walter S. Ballou, and E. R. Rice and C. W. Linthicum, of the Joseph Baniagan Rubber Co.; Messrs. Bliss and Hoadley of the Farrel Foundry and Machine Co.; Clinton Van Vliet, F. F. Schaffer, and W. T. Rodenbach of the Goodyear's India Rubber Glove Manufacturing Co.; Charles A. Coe, of Charles Coe & Co.; C. G. Ames, of The L. Candee & Co.; A. L. Comstock, of the American Rubber Co.; W. F. Mayo, of Mayo Brothers; H. H. Perrin, of the Tremont Rubber Co.; F. T. Comæ, of the Woonsocket Rubber Co.; George C. Wetmore, W. C. McEnroe, John P. Lyons, G. S. Miller, and Henry C. Pearson, who attended as representative of the New England Rubber Club. The floral tokens arriving from all over the country, filled the house and church with a wealth of fragrance and blossom.

Mr. Johnson married, in Paris, in June, 1899, Miss Bertha Moorhouse—daughter of Mr. H. P. Moorhouse, for many years the representative of the Candee company in Paris—who survives him, with one son. Mr. Moorhouse happened to be in the United States, and was able to hasten to his daughter's side, at the time of her bereavement.

In forming a personal estimate of Mr. Johnson, one hesitates just where to begin, because of the wealth of material. He was a singularly broad man, intellectually, with a faculty for doing almost anything that he set himself to do, exceedingly well, while his scientific training rendered him accurate and his ambition energetic, these qualities being tempered by an exceeding courtesy and a recognition of their rights and abilities of others. Few men having climbed so high could have retained so many friends in so many different walks in life.

The New England Rubber Club, of which he was a member, called together their committee on receiving telegraphic news of his death and passed the following resolutions:

WHEREAS, Death has suddenly taken from among us our esteemed friend and fellow member, Charles L. Johnson, we, the members of the New England Rubber Club, are moved to record our sorrow, inadequately, yet sincerely in the following resolutions:

Resolved, That in the death of our friend the trade loses an able leader, a wise counselor, a friendly, courteous gentleman. Modest, intellectual, charitable, successful, his gentleness and consideration will render his a cherished memory.

Resolved, That we extend to his widow and his immediate family our deep and appreciative sympathy. Their grief is ours in a large measure, and while they miss him in the home, we also in the business circles, where strong ties are formed, and true respect and affection also dwell, shall on our part mourn and miss him.

Resolved, That a copy of these resolutions be spread upon the records of the Club, and also engrossed and presented to the family of the deceased.

A. O. BOURN	} Committee.
C. H. ARNOLD	
GEORGE P. WHITMORE	

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED SEPTEMBER 3, 1901.

NO. 681,758. Atomizer. Charles L. Turner, Malden, Massachusetts, assignor to Rhodes Lockwood, Boston.

682,012. Securing elastic tires to wheels. William F. Williams, London, England.

682,057. Cushion tire. Ernest Germain, Paris, France.

ISSUED SEPTEMBER 10, 1901.

682,160. Swimming bag. George B. Anderson, Philadelphia.

682,308. Rubber dam holder. Luther A. Young, St. Louis.

682,387. Elastic valve attachment for pneumatic tires. Rolland J. Peet, Hamilton, New York.

682,442. Elastic tire. William F. Williams, London, England.

682,464. Stopper for infants feeding bottles. Frederick R. Graham, Yooll, Edinburgh, Scotland.

ISSUED SEPTEMBER 17, 1901.

682,633. Tire for vehicle wheels. William F. Masters, Brooklyn, New York.

682,789. Hoof pad. Charles S. Carlin, Keene, New Hampshire.

682,917. Tire. John M. Doan, Mishawaka, Indiana, assignor of one-half to Edward W. Synwolt, same place.

682,977. Resilient or elastic tire. Earnest A. Dibbens, Denver, Colorado, assignor to Charles G. Fawkes, same place.

ISSUED SEPTEMBER 24, 1901.

683,076. Bath hose. William L. Simmons, Chicago.

683,099. Syringe. Arthur E. Bonesteel, Central City, Colorado.

683,260. Life boat. John E. Dysart, Cadiz, Ohio.

683,318. Elastic horseshoe. Sidney McCloud, Chicago, Ill.

683,345. Cushion tire. Frederick W. Skinner, Valley Falls, Rhode Island, assignor to Advance Tire Co., of South Dakota.

683,365. Vehicle tire. William J. Wittmann, Rochester, New York.

DESIGN PATENTS.

35,064. Jar rubber. Florence C. Pulsifer, Port Huron, Michigan. Issued September 24, 1901.

ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

16,745. Emmerich Markovitz, 18, Buckingham street, Strand, London. Improvements in tires. August 20.

16,749. Carlton Davies, 46, Lincoln's Inn Fields, London. Pneumatic tires and valve attachment thereof. August 20.

16,889. Baron Pierre De Caters, 45, Southampton buildings, Chancery lane, London. Pneumatic tires for vehicle wheels. August 22.

16,934. Frederick Wicks, Halfway lodge, Esher, Surrey. India rubber tires. August 23.

16,972. Albert Lambert Cudey, 53, Chancery lane, London. Pneumatic tires. August 23.

17,034. Hermann Gluer, Jr., and Wilhelm Taubenheim, 322, High Holborn, London. Mechanism for inflating vehicle tires during use and for indicating the attainment of the maximum pressure therein. August 24.

17,065. Richard John Hayes, Manchester. Pneumatic pad for trusses in the treatment of hernia. August 26.

17,239. Stanley Ingham, 9, Warwick court, Gray's Inn, London. Solid rubber tire for vehicles. August 28.

17,262. Georg Friederich Herbst, 37, Chancery lane, London. Elastic bracelets. August 28.

17,268. Harry Lucas, 18, Southampton buildings, Chancery lane, London. Valves for pneumatic tires and for similar services. August 28.

17,355. Edward Walton Marston, 55, Chancery lane, London. Valves for pneumatic tires and the like. August 29.

17,366. Charles Edward Lacy-Hulbert, 25, Victoria street, Westminster, London. Method of attaching rubber or other hose pipe to unions or fittings. August 30.

17,386. James Parr, 65, Friar lane, Leicester. Inflated and solid elastic tires. August 30.

17,505. John Joseph Connolly, 72, Cannon street, London. Pneumatic tires. August 31.

17,569. William Humphrey Wheatley, 40, Chancery lane, London. Improved exercising apparatus. [John S. Addleman, United States.] September 2.

17,591. Thomas Blandford, Corbridge-on-Tyne, Northumberland. Bicycle tire consisting of a flexible metallic tube with a covering of India rubber. September 3.

17,686. Harry Lucas and Thomas Sloper, 18, Southampton buildings, Chancery lane, London. Valves for pneumatic tires and similar services. September 4.

17,688. Charles Challiner, Manchester. Noiseless tires for vehicles. September 4.

17,862. Charles Edward Esse, 6, Lord street, Liverpool. Pneumatic inner tubes for tires. September 6.

PATENTS GRANTED.—APPLICATIONS OF 1900.

8367. Securing India-rubber to surfaces. Holroyd, J., Arncliffe, The Downs, Luton. May 5, 1901.

8515. Molding and vulcanizing India-rubber. Hamet, H., 34, rue Piat, Paris. May 8, 1901.

8567. Vulcanizing India-rubber. *Same*. May 9, 1901.

8603. Pneumatic tire. Feather, T., Mirfield, Yorkshire. May 10, 1901.

8626. Rubber tire. Boulton, A. J., 111, Hatton garden, London. [Thurston, E. L., Cleveland, Ohio, United States.] May 10, 1901.

8663. India-rubber cementing. Hamet, H., 34, rue Piat, Paris. May 10, 1901.

8851. Method of attaching tires to rim. Allison, C. A., 52, Chancery lane, London. [Strutt, W. H., and Reeves, A., No. 310 West One Hundred and Twenty-sixth street, New York, United States.] May 14, 1901.

9167. Molding and vulcanizing wheel tires. Doughty, H. J., Providence, Rhode Island, United States. May 18, 1901.

9222. Pneumatic tire. Collier, A. T., Convena, St. Albans, Hertfordshire. May 18, 1901.

9335. Rubber tire. Buckingham, E. J., 83A, St. George's road, Southwark, London. May 21, 1901.

9478. Tire repairer. Reynolds, A. G., 23, Stepney green, London. May 22, 1901.

MR. CANO AND THE "PACIFIC RUBBER CO."

TO THE EDITOR OF THE INDIA RUBBER WORLD: Having read under the head of "Pacific Rubber Co." in your issue of October 1 an anonymous card from some Brooklyn investors in said company's stock, with a very poor attempt at reply to the statements I made in my card and published in your issue of July 1, and to the subsequent confirmations and explanatory comments published in your issues of August 1 and September 1, I cannot see that they seriously traverse the several points stated by me—as matter of fact—in denouncing the falsehood of the so called United Securities Co.'s representations, the non-legal existence of the so called Pacific Rubber Co., and the unlawful use of my name and of a report I made on the property. As I informed you in June, the said property is still in my hands for sale.

As a general rule mere *statements*, even from the most reliable people, are not accepted, and intending investors of common sense and experience, first of all, must investigate on the plan, character, responsibility, financial standing of the company, and its ability to carry out contracts, and by no reasons depend solely upon the so called directors of a fictitious corporation, such as the "Pacific Rubber Co.," simply because they promise a profit unusually great.

To any one fully acquainted with rubber cultivation said profit is extravagantly absurd, and if the so called Pacific Rubber Co. has paid two dividends—July 5 and August 5—those dividends have come out of the money paid by the investors, and not from any income of wild rubber groves.

The Pacific Rubber Co. never has had such a thing as a charter, and are unlawfully using a corporate seal on their shares. The United Securities Co. with "Capital and surplus \$1,012,000," and the "Independent Match Co." of which George Surbrug appears as president and treasurer, are not registered at New York, or mentioned in the City Directory.

Furthermore, under the New York corporation law, directors of a corporation make themselves liable: By making any report, certificate, or public notice that is false in any material feature; the officers and directors signing the same shall, if any loss or damage ensue therefrom, be personally liable to any person who becomes a creditor or stockholder upon the faith thereof. By declaring dividends, *except from surplus profits*; or dividing, withdrawing, or paying out any part of the capital to any of the stockholders.

The "Pacific Rubber Co." since June last, have been unable to give full details regarding the location of the 30,000 acres of the vast, wild groves with rubber trees yielding from 20 to 30 pounds of rubber gum each; have been unable to show the title free of all encumbrance by which they really own said property; have been unable to give the names of the parties in Mexico or elsewhere stated to be or to have control of the plantation, and to show even the smallest importation of rubber gum out of the 60,000 pounds they so boastfully pretend to get. So, still to-day there is absolutely nothing to show their legal standing, character, and financial responsibility, and the whole business is nothing but a fraud.

Besides, the said Pacific Rubber Co., by itself and not by means of anonymous investors, is the one to protest against my statements, and by proper procedure to show themselves blameless; but they are unable to do it so, for, not having complied with the law, they cannot maintain any action in the state courts. My representative is now in New York, and will take such steps as may be required by law to sue and stop those people from the further use of my name. CHAS. G. CANO.

East Oakland, Cal., October 10, 1901.

NEW TRADE PUBLICATIONS.

THE COMBINATION RUBBER AND BELTING CO. (Bloomfield, New Jersey), successors to the Combination Roll and Rubber Co., have issued an extensive catalogue of "Vulcanized Rubber Goods," including especially those adapted to mechanical purposes. The company control various special processes, particularly that for making their "Indestructene" rubber belting. The book contains considerable information of value in regard to rubber belting and hose, together with a catalogue of mechanical rubber goods in general, molded specialties, etc., including illustrations and prices. [5"×7½". 84 pages.]

B. F. STURTEVANT CO.'S (Boston) Catalogue No. 117 relates to "The Sturtevant Electric Motors, Generators, and Generating Sets." Having first gained a worldwide reputation as blower manufacturers, they have found some special effort necessary to impress the public with the corresponding magnitude of their business in the electric field. The catalogue referred to here, however, should be sufficient evidence that the Sturtevant company are fully equipped to meet any requirements in the way of moderate sized motors, generators and generating sets. Catalogue No. 117 is even handsomer than the Sturtevant standard. It is illustrated effectively, contains advice of value to intending buyers of motors, and gives prices. [9"×6½". 49 pages.]

WELLMAN SOLE CUTTING MACHINE CO. (Medford, Massachusetts) issue a new publication—"C 1901"—relative to their machines, of which one is for cutting taps and the other for cutting all kinds of soles, whether plain or embossed, large or small. There are eleven pages of plates, illustrating all the various parts of these machines, followed by descriptive matter and directions for ordering, the object of the whole being to make it easy for the company's customers to order whole machines, or parts, as desired. A price list is included. [9"×11¾". 20 pages.]

THE B. F. GOODRICH CO. (Akron, Ohio) issue a brochure entitled "The Pickett All Rubber Valve," pointing out its adaptability for pneumatic tires, air cushions, pillows, punching bags, and football bladders, with illustrations of the form and method of attaching this valve—details which have appeared already in THE INDIA RUBBER WORLD. [3¾"×6". 6 pages.]

THE VICTOR RUBBER CO. (Springfield, Ohio) issue an illustrated catalogue of "Mats, Matting, and Specialties for the Carriage Trade," showing a wide variety of designs, and giving prices. [3½"×6¼". 12 pages.]

BOSTON WOVEN HOSE AND RUBBER CO. issue a "Garden Hose Catalogue" for 1902, embracing ten brands in rubber and four in cotton hose, together with a varied line of hose appliances, the booklet being suitably illustrated. [8"×5½". 20 pages.]

ALSO RECEIVED.

PNEUMATIC Mattress and Cushion Co., New York.—Pneumatic Mattresses, Pillows, Cushions, etc. 16 pp.

Morse, Williams & Co., Philadelphia—Belt Power Elevators. 24 pp.

P. Goldsmith's Sons, Cincinnati, Ohio—Sporting Goods [including striking bags and footballs with new patented rubber bladders]. Catalogue No. 38—Fall of 1901. 28 pp.

The La Favorite Rubber Manufacturing Co., Paterson, New Jersey—Brown Packings. 4 pp.

Quaker City Rubber Co., No. 409 Market street, Philadelphia—Garden Hose. Daniels' P. P. P. Patented Rod Packing. Lawn Hose Reels. [Series of folders.]



RUBBER GOODS

Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means “Carbon” grade—a good article; a double diamond means “Double Diamond” grade—a fine article; a triple diamond means “1846 Para” grade—a splendid article and the best we can make. Our brands on hose, belting, packing

*Belting,
Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,*

and other rubber goods are guarantees of high quality and long service.

Chicago,150 Lake St.
St. Louis,411 No. Third St.
San Francisco, 509 Market St.
Boston,24 Summer St.
Philadelphia, 724 Chestnut St.

*C. I. Packing,
Rubber Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.*

NEW YORK BELTING & PACKING CO. LTD

PIONEERS AND LEADERS—25 PARK PLACE, NEW YORK.

Mention The India Rubber World when you write.

ECCE SIGNUM.



THOROUGHLY RELIABLE.

The policy of furnishing only the finest goods that can be produced with perfect materials, latest and best machinery, and highly skilled workmen of long experience, has been, is now, and will continue to be, the policy of

The Mechanical Rubber Company,

CHICAGO, ILL.

Branch Store, No. 1810 Blake Street, Denver, Colo., where we carry a full line of goods.

Manufacturers of all kinds of rubber goods for mechanical uses—Hose, Belting, Packing, Gaskets, Bicycle Tires, Specialties, Moulded Goods, Etc., Etc.

If you are unable to satisfy your trade with goods you are supplying,
If you are in search of good goods at fair prices,
If you cannot get quick deliveries,
If you are not getting fair value for your money,
IN ANY EVENT,

SEND TO US FOR SAMPLES AND QUOTATIONS.
WE CAN SUIT YOU EVERY WAY.

FACTORY, GRAND AVE. & ROCKWELL STS

THE MECHANICAL RUBBER CO., 230 Randolph St., Chicago, Ill.

Mention the India Rubber World when you write

A REVOLUTION IN THE MANUFACTURE OF RUBBER FOOTWEAR.

FOR several months obscure rumors have floated about the rubber shoe trade relative to a new method of manufacture. In spite of the fact that these rumors were persistent, no one seemed to be able to gain explicit information. Indeed, it is probable that most hearers dismissed them as of no value. That they had a good foundation, indeed, that an absolute revolution in the manufacture of rubber footwear has been accomplished is the fact.

To begin at the beginning of the story, one should review several years, that were filled with experiment and investigation on lines wholly original, and that from the first gave great promise. Not to follow the work of those years in detail, it is enough to say that, less than a twelve-month ago, the first machine for making and vulcanizing a stockinet lined rubber shoe was constructed. To-day, both machine and process are perfected, and turning out a product that noted shoe experts, American and foreign, after the most critical examination and investigation, pronounce unrivalled in style, finish, and durability.

In order to understand clearly what the new process accomplishes, it is well to glance at the methods by which rubber footwear is now made, as well as at the finished product. Beginning backward, the standard product to-day is far from satisfactory. In the words of one rubber expert: "The best rubber shoe as made to-day is a pasted, uncouth abortion, its lines hardly twice alike, its surface covered with an oilcloth varnish, and nearly every process of its manufacture marked by the clumsy methods of the middle ages." This is severe, and at first blush seems hardly fair to those who have worked so hard to perfect their product in the old way. But it is true. There has been progress in style, and in the production of lighter and trimmer goods, but that is about all. With a gum like India-rubber that lends itself to any shaping and to any finish, the shoe to-day is far from perfect. To be sure, the writer did not see this clearly until this shoe was shown him, and he begs his readers to wait until they themselves see it, before doubting his judgment in the matter.

Reviewing then the present process of manufacture, it will be admitted that the washing, drying, and mixing, as they are done to day, may be improved, but are not likely to be done away with or revolutionized. So far so good. But the sheet, upper, soling and friction calenders offer a field for economy, the vulnerable points being the upper and soleing calenders. The cutting room with its racks, its hand work, its great spaces and its booking, is another weak spot. Then the making-up rooms, the costly equipment of tables, racks, cars, and tracks, and the endless hand work have long vexed the soul of the manufacturer. So too with the use of cement—no other part of the rubber industry, but would consider it a burden and a waste. Then comes the vexed question of wooden lasts

and boot trees, one of the most costly items, ever shrinking, burning, chipping, and upsetting patterns, until exact sizes are an impossibility. Nor is this all—for the linseed oil varnish is but a delusion and a snare. And last comes the long dry heat, injuring the fine lines of the "stitcher" and the expert worker, tying up cart loads of lasts, demanding far too much room, too much heat, and forever an unknown quantity when it comes to exact regulation.

One of the first requisites in a trade revolution is the cheapening of the cost of manufacture. Estimated conservatively, by this process, a shoe can be made at 40 per cent. less cost than the same type of shoe made by the present process. Incidentally, it may be well to mention here that the new shoe put on the market by the side of the best of to-day's product, will sell for 20 per cent. more, this being the estimate of one of the largest jobbers in the United States.

A second consideration is the initial mechanical equipment, which is cut down more than one-half, while the floor space required is cut down 80 per cent.

A third and most important point, relates to the quality of stock needed to turn out a perfect shoe. Exhaustive tests have demonstrated that, under this process, a much cheaper compound can be used and give a better product, both for finish and for wear, than is possible by using the seven hour dry heat.

Again, taking shoes of a given size and style, there will be absolutely no variation if millions of pairs are made from the very simple model that the machine calls for. Still further, one man can complete a finished, vulcanized, shoe a minute, and do it day in and day out. And lastly, any type of footwear, from the lightest ladies' goods to lumbermen's overs, arctics, and boots, can be turned out with facility and almost absolute freedom from "seconds" or faults.

The machine, which is so small that the operator can reach any part of it from his post, is a marvel of compactness and effectiveness. It lines the shoe with any material with perfect smoothness, and the most delicate fabric on the inside or outside, is neither weakened, stained, nor marred by any part of the process. It also opens a broad field for new and artistic designs never before possible. The finished shoe is not varnished at all, but comes out of the machine jet black, as smooth as glass, and with a permanent surface polish.

The machines and processes, by the way, are completely covered by patents in the United States and foreign countries, and eminent patent attorneys have pronounced them to be unassailable. A company has been organized with a capital of ten million dollars to manufacture rubber boots and shoes under these patents and processes controlled by Mr. Joseph O. Stokes, a well known and successful manufacturer of general mechanical rubber goods.

SOME NEW LAWN SPRINKLERS,

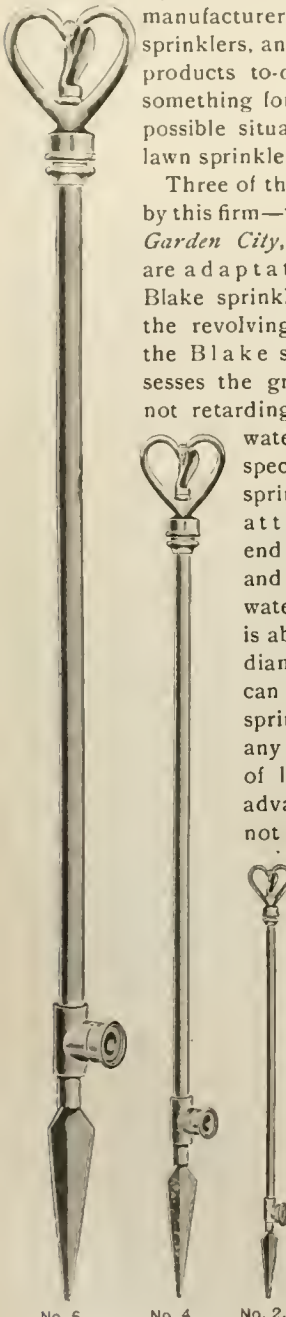
THE approach of the season for placing orders for lawn sprinklers for next season's trade is made the occasion for the announcement by the W. D. Allen Manufacturing Co. (Chicago) that they have been again at work during the past year on goods in this line, having secured patents meanwhile on three new sprinklers. The firm referred to are the largest

manufacturers of lawn sprinklers, and their list of products to-day embraces something for about every possible situation where a lawn sprinkler can be used.

Three of the styles made by this firm—the *Hartford*, *Garden City*, and *Busy*—are adaptations of the Blake sprinkler. Being of the revolving spoon type, the Blake sprinkler possesses the great merit of not retarding the flow of

water in any respect. The Blake sprinkler can be attached to the end of the hose, and the volume of water discharged is about $\frac{3}{8}$ inch in diameter, so that probably more water can be distributed through the Blake sprinkler than through any other. At any rate, this is becoming a popular form of lawn sprinkling devices, among its advantages being the fact that it does not clog should there be any sand or dirt in the water, and the water is distributed freely. As above stated, the *Hartford*, *Garden City*, and *Busy* are simply different adaptations of this sprinkler, the result obtained being the same in each case.

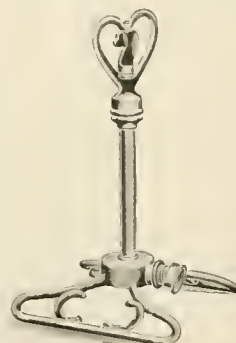
The *Sunshine* and *Pluvius* sprinklers operate on a new principle, being ball bearing. For this form of sprinkler the firm have secured letters patent. The principal advantage of this construction is that the sprinkler revolves with very light pressure. It has been found that the sprinkler arms will revolve with the weight of the water in the



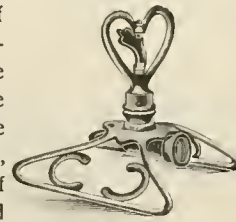
No. 6. No. 4. No. 2.
HARTFORD SPRINKLER.

hose, provided the hose is lifted to a height of 5 or 6 feet. The force of pressure will cause the sprinkler to revolve gently as long as there is any water in the hose to flow. The advantages claimed for this form of sprinkler are two: (1) it revolves so easily that it will throw water further than a similar sprinkler will which is not ball bearing, and (2) it revolves with such slight pressure that it will cover a small surface if desired. The radius of the circle of the old style sprinkler could never be reduced sufficiently to sprinkle a lawn and not cover the

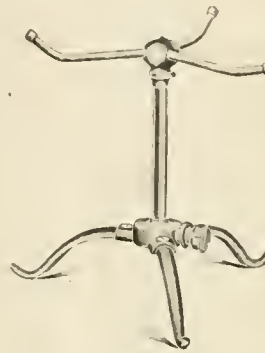
sidewalk, but the *Sunshine* and *Pluvius* sprinklers can be so handled as to distribute water over a circle only 4 feet in diameter, if necessary. There is no other sprinkler made of this type which revolves so easily, or which is capable of the same



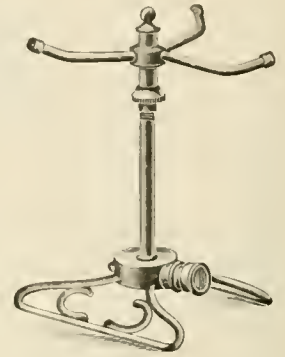
GARDEN CITY.



BUSY.



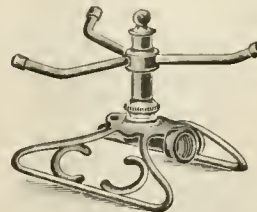
SUNSHINE.



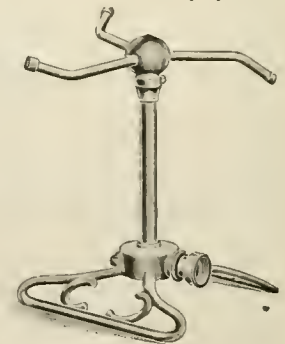
PLUVIUS.

variety of changes. These sprinklers have been reduced in price considerably.

The *New Preston* sprinkler embodies a change in the form of sprinkler formerly made by the E. B. Preston Co., which renders it more effective and more graceful in appearance. The "Preston" was always regarded as a good sprinkler and it is expected that the changes will render it more popular.



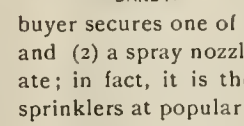
NEW PRESTON.



CYCLONE.

The *Cyclone* sprinkler is an adaptation of the old "Columbia," which also was made for many years by The E. B. Preston Co. It is simply the "Columbia" sprinkler on a sled. The tendency in lawn sprinklers of this class is towards putting them on sleds, the obvious advantage being that they can be dragged over the lawn simply by pulling on the hose.

The *Dandy* sprinkler is the subject of the latest patent gotten out by the W. D. Allen Manufacturing Co. It consists of a spray nozzle screwed onto a sled. In connection with the sled it is used as a lawn sprinkler. When a nozzle is wanted, the nozzle part is unscrewed from the sled and attached to the hose, and when the buyer secures one of these articles he has (1) a lawn sprinkler, and (2) a spray nozzle combined in one. The price is moderate; in fact, it is the object of the manufacturers to make sprinklers at popular prices this year.



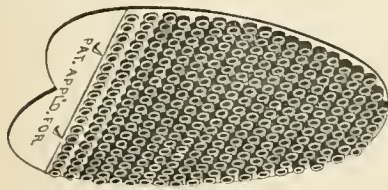
DANDY.

WHAT remains of the assets and business of the Rubber Estates of Pará, Limited, which company was floated in England some three years ago with a large capital to acquire the rubber estates of the Visconde dos Domingos, near Pará, has passed under the control of the Brazilian Rubber Trust, Limited, registered in London on September 28, with £37,000 capital.

NEW GOODS AND SPECIALTIES IN RUBBER.

BAILEY'S NEW HEEL CUSHION.

THE true inventor is a man who wrestles with a problem until it is solved, and that to the satisfaction of all concerned. Bailey's first heel cushion, which was a good one, had the rubber set on a neat piece of leather. This was found objectionable later, as the leather, absorbing perspiration, drying, and curling, drew out the two tiny tacks that hold the cushion in place. Celluloid, therefore, replaced the leather but this proved to be so springy that the tacks often jumped out. Mr. Bailey then put on his thinking cap and soon evolved the present heel cushion, which appears perfect. The rubber is attached to a thick piece of felt. The tacks are buried out of sight, the felt next to the wearer's foot is most comfortable and is in itself an elastic cushion, while underneath is the rubber molded in the shape shown in the illustration, forming a light indestructible cushion for the heel. [C. J. Bailey & Co., No. 22 Boylston street, Boston.]



JOHNSON'S ACCIDENT CASE.

THE liability of every one to accidents of some kind, whether when traveling or at home, has suggested the desirability of having in readiness an outfit of appliances and materials adapted for immediate use for wounds and bruises. If every man cannot carry such an outfit around with him, it is de-

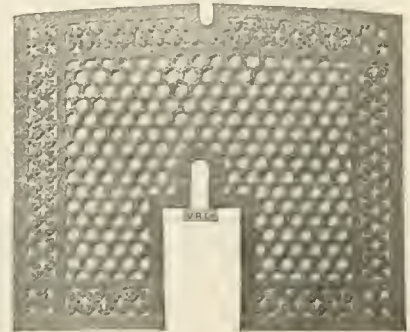


sirable at least to know that they are coming to be kept on sale generally, and while the contents of such a case as is illustrated herewith embrace but little rubber, the case properly belongs in every stock of druggists' sundries. Besides, rubber men are no less liable than the generality of mankind to accidental injuries, and may be supposed to be as much interested as anybody else in the provision made for first aid. The case here illustrated is 15x6x8½ inches in size, strongly made, and waterproof, with hinged cover. Inside are packed—each article in its proper place—an assortment of bandages, ligatures, lint, adhesive plaster, surgeon's soap, absorbent cotton, anti-

septic tablets, and the like, together with a copy of Johnson's "First Aid Manual," containing advice for treating various forms of injury, and instructions for using the various materials above referred to.—This case contains three of Johnson's "First Aid Packets," with a small outfit of bandages and anti-septic materials. It is mentioned that in the recent Cuban campaign the United States government supplied 370,000 of these packets to the army and navy. The articles, together with a variety of rubber plasters, are manufactured by Johnson & Johnson, New Brunswick, New Jersey.

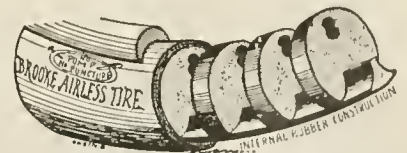
AUTOMOBILE MAT.

THE wide extent to which automobiles have come into use has lead to a demand for shapes and patterns of rubber mats specially adapted for such vehicles and different from anything hitherto on the market. In very many cases mats of irregular shape are required, and such must be made to order. The demand in this line is for mats made of good stock, and such mats should outlast the vehicle to which they are fitted. Several of the rubber companies exhibiting tires at the carriage shows last month gave a prominent space in their displays to rubber mats, including The Victor Rubber Co. (Springfield, Ohio), one of whose designs is reproduced in the accompanying illustration.



BROOKE "AIRLESS PNEUMATIC" TIRE.

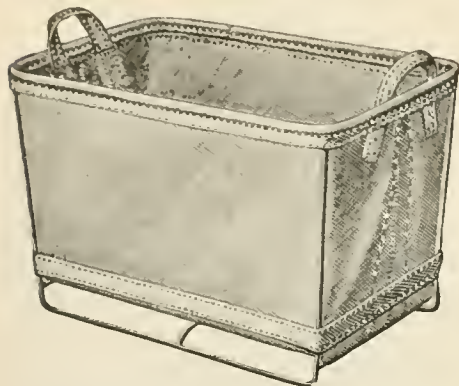
THE internal construction of this tire, as indicated by the illustration herewith, is a core of India rubber, constructed with a view to affording resiliency, without the tire being liable to injury from puncture. In the words of the inventor, M. E. Brooke, it "produces riding qualities similar to a pneumatic tire." The tire is manufactured in lengths, which can be cut to fit wheels of any diameter. It is attached to the wheel by wires, and may also be reinforced by bolts through the felloe. Of course no pump is required. It is stated that a 1½ inch of this type will work satisfactorily when used on 1¼ inch solid tire crescent rims.—This tire is controlled by the Brooke Airless Pneumatic Tire Co. (Denver, Colorado), incorporated under Colorado laws in January last, and of which the Mr. Brooke mentioned above is general manager.



MORRIS SPRING BOTTOM DUCK BASKETS.

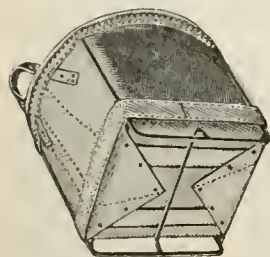
THESE baskets, made on a design for which patents are pending, are offered to the trade as possessing the qualities that make a desirable mill basket, especially strength, lightness, durability, ease of handling, and in addition an elasticity that reduces to a minimum the breakage of articles thrown into them. They are constructed of spring steel frames and specially woven heavy cotton duck, on designs which have been tested with great care. The joints are all smooth, without burrs, lumps, or ridges to wear or cut the duck covering. The

larger of the two cuts shows a complete basket, the bottom of which, composed of duck bands, is from 1½ to 2 inches from



the floor, allowing the basket to be moved easily from place to place on the steel runners. The covering consists of one piece of duck, folded without seams, and resting on the bands within the frame. The covering is put on under considerable tension and thor-

oughly secured with twine and rivets; besides which the baskets are hooped with duck bands and reinforced at all wearing points. There is nowhere any hard surface for the goods to



come in contact with and cause breakage or damage. The smaller cut shows a round basket, and a view of the bottom construction common to all the various shapes in which these baskets are made. They are designed for rubber, textile, knitting, and bobbin factories, stores, express companies, etc. The manufacturers are in receipt of very

encouraging letters: "The best basket we ever had in our mills," "Would not know how to do without them," etc. [Morris & Co., Yardville, New Jersey.]

AN AIR MATTRESS WITH "STAYS."

AN air mattress without stays is liable to bulge into hillocks and hollows. Many inventors have devised stays intended to prevent this bulging, but what they have produced has proved in most cases either clumsy, or weak, or otherwise unsatisfactory. But one inventor, A. A. Young, made a stay for a pneumatic cushion that goes through to the outer sides, fastening there to a wooden button, with concave under surface, which is vulcanized to the rubber webbing of the mattress. Over the button a cap of rubber webbing is fastened and vulcanized, in-



"PEERLESS."



"BUTLER."

sureing a thoroughly air tight mattress or cushion, with the strain on the outside. The air sack, in the cushions made under Mr. Young's patent, is protected by a covering of ticking or brown duck. These cushions are made in styles for use on ships and yachts—they are in use on the "American Line" steamers and some United States naval vessels—for camp use, automobile cushions, chair cushions, hospital beds, and for ordinary household use. [Pneumatic Mattress and Cushion Co., Nos. 23 South street, New York.]

THE RUBBER TRADE IN CHICAGO.

BY A REGULAR CORRESPONDENT.

THE distribution of garden hose during the past summer was so general throughout the middle west—because of the early and protracted drouth—that the stock in retailers' hands was probably left smaller than for many years, and indications are that a very heavy business will be done by manufacturers and jobbers this fall and winter for next season's supply. It does seem, however, that the manufacturers would serve their own interests better if they held prices on the lower grades of hose at a point which would enable them to make hose on which they would not have such a large percentage of defective hose returned. But judging from prices at which some large contracts have already been taken, with guarantees for quite heavy pressures, a lower range of prices is being made than would appear to be comfortable.

The distribution of belting, particularly in the higher grades, has been large, and generally satisfactory.

John M. Moulton & Co. have let the contract for belting for a grain elevator they will build in 1902, for the West Shore railroad at Weehawken, New Jersey, to the Diamond Rubber Co. (Akron, Ohio.) There are three more large elevator belting contracts which will shortly be out, for which the competition doubtless will be as keen as it was for the ones recently placed. This lot of belting referred to will not weigh less than 60,000 pounds.

The vehicle and bicycle tire business has been very satisfactory, as far as volume goes, and while prices are still pretty close, it is to be presumed they are fairly remunerative for the manufacturers.

Rubber horseshoes, of which the styles are bewilderingly numerous, are growing more and more in favor, and the outlook is for a large business this coming season. Rubber heels also hold their own and seem to have established themselves as a necessity, and not as a fad.

The severe and protracted drouth in the early summer in the middle west and northwest, was the cause of a great deal of cancellations in the rubber boot and shoe trade; but on the whole distribution has been very satisfactory, and well ahead of last year. Doubtless jobbers as well as retailers would like to see the very fine weather we have been having come to an end.

The distribution of druggists' sundries continues very satisfactory, and hard rubber combs are having an extensive sale. In hard rubber goods, the demand for battery jars is constantly increasing, and the distribution of sheet, rod, and tubing is large. *Papier maché* composition seems to be getting a considerable share of the telephone specialties, such as receiver shells, mouth-pieces, etc., but hard rubber gets the big end of the business, and a very large one it is.

There is a good field in Chicago for a hard rubber turner. There must go out of Chicago to New York \$300 or \$400 worth of work every month from surgical instrument houses for such specialties as ear trumpet pieces and the like. Not enough of any one article is bought to justify the cost of dies and molds and hence these things are all "turned" from tubing.

The business in fire hose is very good indeed; one house reports having more orders than they can fill.

The formation of another rubber plantation company here is reported, with 21,000 acres of land in the state of Chiapas, Mexico. Particulars will probably be forthcoming by next issue. From the character of the men in charge, and also the favorable location of its land, this promises to be one of the very successful companies.

NEWS OF THE AMERICAN RUBBER TRADE.

GOING TO NIAGARA TO RECLAIM RUBBER.

THE United States Rubber Reclaiming Works have taken an important step, looking both to the extension of their facilities for work, and to the future remodeling of their business, by securing premises at Buffalo, New York, where advantage will be taken of electrical power from Niagara Falls. The property acquired consists of $2\frac{3}{4}$ acres, bounded by three principal streets, the most important of which is Babcock, the location being about 12 minutes by trolley car from the courthouse. On the ground there is already a $3\frac{1}{2}$ story building, of good construction, 185×85 feet, with adjacent sheds, suited, with some alterations now in progress, for the reception of a reclaiming plant. A contract has been entered into with the Cataract Power and Conduit Co. for electrical power, and orders placed for 5 induction motors, alternating current, having a combined capacity of 1500 horse power. The steam plant, for use in devulcanization, will consist of boilers aggregating 200 horse power. The machinery needed for the reclaiming plant, also under order, will be of the latest type, and special study has been given to planning the most convenient and economical installation of the same. In addition to the advantages expected from model equipment, and the saving in cost of power as compared with steam, an important saving in freight charges is assured, from the fact that a large part of the raw material used is gained from the West—Chicago being a center of the trade in scrap rubber—and water transportation will be available, at low rates. It is expected that the Buffalo plant will be in operation by the beginning of March. In time the company's Jersey City plant, established about 1883, will be consolidated with that at Buffalo, but the present plans do not look to the abandonment of the important works at Shelton, Connecticut, which occupy a convenient relation to the rubber industry of New England.

DIAMOND RUBBER CO. (AKRON, OHIO.)

THE annual meeting of this company was held on October 16, when the directors and officers were reelected. While no official financial statement has been given out, it is common report that the past year's earnings have been most satisfactory, which may explain, says an Akron newspaper, "why one of its stockholders offered recently to pay over \$50,000 for a block worth \$20,000 at par."

GOOD CONTRACTS FOR ELEVATOR BELTING.

THE Boston Woven Hose and Rubber Co. have secured the contract for the rubber belting required for the new Grand Trunk grain elevator at Portland, Maine, the specifications for which appeared in the last INDIA RUBBER WORLD [page 23.] The same company also recently secured a contract for supplying the belting for the Illinois Central Railway elevator at New Orleans, for which the George B. Swift Co. (Chicago) are the contractors.

THE RUBBER STOCK THAT MAGOWAN SOLD.

THE court of chancery at Trenton, New Jersey, on October 4, granted an injunction restraining William H. Skirm from in any wise disposing of 1048 shares of Empire Rubber Co. stock, about which there has been much litigation. The action of the court is taken in the suit of John E. Clancy, receiver of the old Empire company, against Frank A. Magowan and others, and the court holds that the stock in question must not be disposed of until the affairs of Magowan have been brought to a

final accounting. Mr. Skirm claims title to the 1048 shares by purchase at a sheriff's sale, in June, 1897, of Magowan's interest in this stock, for \$30. The validity of this title is attacked by the complainant on the ground that Messrs. Skirm and Magowan concealed the amount of the actual claim against this stock and so prevented *bona fide* bidders from purchasing it.

CALUMET TIRE RUBBER CO. (CHICAGO).

THE Calumet company are largely increasing their facilities. They have erected an entirely new plant as an addition to their original one, in which there are duplicates of all the machinery already in use, together with a large variety of new machinery, much of which is patented, some of which is operated under a secret process for the manufacture of general mechanical goods. The company's specialty will continue to be vehicle tires, to which they plan to pay even more attention in the future than they have in the past, both as regards variety of makes and superiority of product.

EASTERN AGENCY OF THE MAHONING.

WILLIS A. DARLING who, since 1876 has been actively interested in the making of mechanical rubber goods, and who is accounted one of the most successful and popular salesmen in that line, has accepted the position as sales agent for the Atlantic states for the Mahoning Rubber Manufacturing Co. (Youngstown, Ohio.) Mr. Darling will have offices in New York and Boston, and will also carry a stock of goods in each center.

GOLD MEDAL FOR EUREKA FIRE HOSE.

THE Eureka Fire Hose Co. (No. 13 Barclay street, New York) have been awarded a gold medal at the Pan American Exposition, covering their noted brands of fire hose, "Eureka," "Paragon," and "Red Cross"; also, for hydraulic hose for all purposes, linen hose, and tubular fabrics. There is no question as to the popularity of the company's products.

THE CAPE NOME CABLE NOT DAMAGED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I wish you would kindly contradict the notice mentioned in your issue of this month regarding the Nome cable being a failure. Having manufactured and laid this cable, I hereby state that the same is in perfect working order, and has been since August 20, the last report being through Mr. Sloss, of the Alaska Commercial Co.; also Major Green of the Signal Corps, U. S. A., at St. Michael, Alaska. Yours truly,

W. R. BRIXEY.

No. 203 Broadway, New York, October 2, 1901.

THE report here referred to [October issue—page 22] was published as having appeared in the newspapers late in September. Mr. Brixey has our thanks for his correction.

B. F. STURTEVANT CO. (BOSTON.)

WORK is now under way upon the foundations for the immense new plant of this company, at Hyde Park, Massachusetts. That the buildings can be completed none too soon for the urgent needs of the company is evidenced by the fact that their present plant at Jamaica Plain is now taxed to the limit and that it has been necessary to run overtime, particularly in the engine and electrical departments.—Prof. R. A. Smart has resigned his position in the department of experimental engineering of Purdue University (La Fayette, Indiana) and connected himself with B. F. Sturtevant Co., with whom he will become the head of a department of experimental en-

gineering which is being established for the purpose of investigating all problems relating to blower practice and of developing new and more efficient applications of the fan blower in all lines of industry.

A NEW RUBBER RECLAIMING COMPANY.

A NEW incorporation, under the laws of New Jersey with \$60,000 capital paid-in, is that of the Pequanoc Rubber Co., with factory, and general offices at Butler, N. J. The active spirits of the company are Mr. Joseph F. McLean, president and general manager, and Mr. Charles J. Trent, secretary and superintendent. The former of these gentlemen has been, for twenty years, actively engaged in the rubber business. He is well known in New Jersey, being treasurer of Morris county, and bears an excellent reputation as an enterprising and capable business man. Mr. Trent has been, for some fourteen years past, superintendent of the Bloomingdale Soft Rubber Works, and is known as a skillful and conservative superintendent, and one who understands the manufacture of reclaimed rubber in all its branches. The plant has been fully equipped with the latest machinery for the manufacture of mechanical reclaimed rubber. The new company already have assurances of good contracts and are putting on the market only the best grades of goods. The management of the concern fully appreciate the necessity of an absolutely pure and reliable product and their long experience in the rubber business has shown them the importance of uniformity and reliability in reclaimed rubbers.

THE SCRAP RUBBER MARKET

THE prices at which transactions in scrap rubber have been closed, during the past month, are somewhat higher than the rates which ruled during the summer, which is due to the increased activity of consumers. The latest quotations supplied in New York are $8\frac{1}{4}$ @ $8\frac{3}{8}$ cents per pound for old shoes, in car-load lots. Foreign stock is quoted at $6\frac{3}{4}$ @ 7 cents. Reference has been made in these columns to sales of foreign scrap abroad at relatively higher prices than American quotations for goods of this class, but from the continued liberal rate of importations of scrap from Europe, it would appear that the principal market for scrap of transatlantic origin remains in the United States. An indication of the demand here for foreign scrap may be found in the fact that two advertisements in THE INDIA RUBBER WORLD recently, offering foreign scrap to the American trade, were answered by nearly every house in this line.

A FACTORY SPREADING OUT.

THE Goodyear Tire and Rubber Co. (Akron, Ohio) have recently moved into a large brick office building which it erected during the past summer. The former quarters were too small, but now make room for a spreading out of the factory departments. The company are erecting a three-story addition on land recently acquired from the city and, it is rumored, will add a line of soft rubber specialties to its output about midwinter.

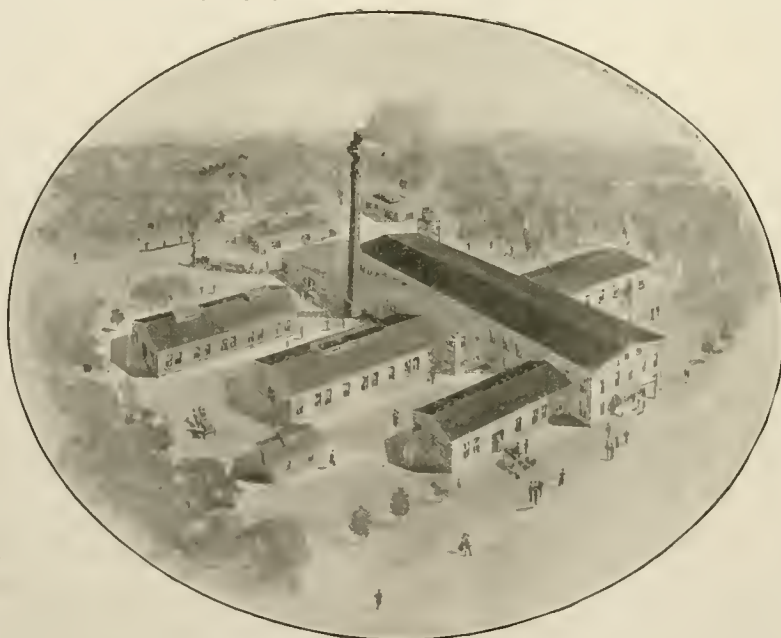
THE LAST OF THE ÆTNA RUBBER MILLS.

SOME little time after the death of C. M. Clapp, the well known plant of the Ætina Rubber Mills, at Jamaica Plain, Massachusetts, was partially destroyed by fire. The plant was never again used as a rubber factory, but was utilized by a local carpenter as a storehouse for lumber and building materials. On September 00 the mill again took fire, when it was totally destroyed.

DEATH OF MAX T. ROSEN.

MAX T. ROSEN, who, with his wife and daughter, was returning from a trip to Europe on the steamship *Deutschland*, which reached New York on October 24, died on that vessel on the 20th, of heart failure. His body was brought home and interred at Woodlawn cemetery on October 27. Mr. Rosen was 55 years old, and was secretary and a director of the U. S. Rubber Reclaiming Works (No. 127 Duane street, New York), with which company he had been connected for several years. He was also a member of many local societies and a director of the Legal Aid Society, and took an active interest in the

work of the Citizens' Union, and during the 1900 campaign was chairman of the finance committee of the German-American McKinley and Roosevelt League. Mr. Rosen was a native of Germany, but had resided in the United States for about twenty-five years. He was married to a sister of Mr. Ernst Thalmann, head of the New York banking firm of Ladenburg, Thalmann & Co., and leaves, besides the members of his family who were with him on the ship, three sons, the eldest of which is a member of the law firm of Underwood, Van Vorst, Rosen & Hoyt; the second is a well known painter in Paris, whose pictures have



FACTORY OF THE PEQUANOC RUBBER CO.

been exhibited in the Salon, and the third is connected with Ladenburg, Thalmann & Co. Mr. Rosen was a man of literary and artistic attainments, had a large circle of acquaintances, and numbered among his friends many men prominent in society, and letters and arts.

UNITED STATES RUBBER CO.

IT is stated authoritatively that the plant of the National India Rubber Co. will not be removed from Bristol, Rhode Island. This is in answer to reports that the machinery might be transferred to Malden and Millville, Massachusetts, to other factories controlled by the United States Rubber Co. Plans have been made to transfer the knit boot business that has been done at Woonsocket, Rhode Island, in the South street mill, to the factory of the Lawrence Felting Co., at Millville. All the knit boot and felt boot production of the United States company will thus be combined in one factory. John Jay Watson, Jr., has been elected second assistant treasurer of the United States Rubber Co. He has been treasurer of the Joseph Banigan Rubber Co., prior to which he was connected with the Industrial Trust Co., at Providence, R. I. Mr. Watson has been also a member of the Rhode Island legislature and a member of the State board of charities and corrections.

==The late Charles L. Johnson filled the offices of secretary and treasurer of The L. Candee & Co. (New Haven, Connecticut.) His assistant in the office of treasurer, Albert C. Coe, has been elected treasurer, and H. Stewart Hotchkiss, a son of President Henry L. Hotchkiss, and a member of the class of 1900 at Yale, has been elected secretary.==The following is a record of transactions in United States Rubber on the New York Stock Exchange:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending Aug. 24	1,200	20 ⁷ / ₈	18	800	59	57 ¹ / ₄
Week ending Aug. 31	1,000	21	19 ¹ / ₄	1,400	60	58 ¹ / ₄
Week ending Sept. 7	900	20 ¹ / ₂	18 ¹ / ₄	400	58	55
Week ending Sept. 14	1,450	19 ¹ / ₂	17 ¹ / ₂	1,000	55 ¹ / ₂	55
Week ending Sept. 21	500	18 ¹ / ₂	18	100	56	56
Week ending Sept. 28	700	18	17 ¹ / ₂	900	55	53
Week ending Oct. 5	10,520	17 ¹ / ₄	12 ¹ / ₂	3,455	53	47
Week ending Oct. 12	3,451	15 ¹ / ₂	14	450	52 ¹ / ₂	50
Week ending Oct. 19	1,500	15 ³ / ₈	15	85	49 ⁷ / ₈	48 ⁷ / ₈
Week ending Oct. 26	210	15 ¹ / ₂	15 ¹ / ₂	700	50	50

RUBBER GOODS MANUFACTURING CO.

THE figures below record the transactions in Rubber Goods shares on the New York Stock Exchange since the last report published in THE INDIA RUBBER WORLD:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 24	2,600	31 ¹ / ₄	28	600	79	77
Week ending Aug. 31	7,300	32	30	100	79 ¹ / ₂	79 ¹ / ₂
Week ending Sept. 7	6,100	31 ¹ / ₄	27	200	80	80
Week ending Sept. 14	1,120	28	27	100	79	79
Week ending Sept. 21	1,000	27 ¹ / ₂	25	—	—	—
Week ending Sept. 28	1,700	28 ¹ / ₂	26	—	—	—
Week ending Oct. 5	5,475	26	21 ¹ / ₂	300	73	70 ¹ / ₄
Week ending Oct. 12	11,900	27 ¹ / ₂	23	500	75 ¹ / ₂	74
Week ending Oct. 19	13,835	29	27 ¹ / ₄	200	75	75
Week ending Oct. 26	13,100	29 ¹ / ₂	27 ¹ / ₂	—	—	—

TALK ABOUT CONSOLIDATION.

AN attempt is being made to bring about a further consolidation of the mechanical rubber goods industry. The promoters are understood to have in view particularly the leading rubber factories at Akron, Ohio, none of which, except the India Rubber Co., has yet entered any combination, and also the principal manufacturers of rubber tires elsewhere who still remain independent. Part of the program is to start with the Rubber Goods Manufacturing Co. as the basis of a new corporation. One report is to the effect that the underwriting syndicate formed in New York to finance the consolidation have failed as yet to secure subscriptions for the greater amount of the money needed. This is regarded as a discouraging fact, and another is the high standard of valuation of the different properties fixed by the present owners. THE INDIA RUBBER WORLD is informed that, under the laws of Ohio, it would require the signature of every shareholder in a corporation to make valid a sale outright, but the negotiations which have been in progress at Akron have had for their object the purchase of a controlling interest in each of the companies.

Colonel George T. Perkins, president of The B. F. Goodrich Co., at Akron, said to a representative of THE INDIA RUBBER WORLD: "So far as our company is concerned, there is nothing in the reports that have been published. There have been no negotiations with our company regarding a consolidation with other rubber concerns, nor a sale to the Rubber Goods Manufacturing Co., or any one else."

President Frank A. Seiberling, of the Goodyear Tire and Rubber Co., said: "No overtures of any kind have been made

to our company, and I know nothing of the reported combination or consolidation movement."

Treasurer A. H. Noah, of the Diamond Rubber Co., said: "So far as the Diamond Rubber Co. is concerned, there are no such negotiations on, and never have been."

Officials of other Akron rubber companies declined to make any statement for publication. It may be noted that the above denials apply to companies—and not necessarily to individuals. In which connection it may be of interest to quote from the Akron *Daily Democrat* the report that B. G. Work, superintendent of The B. F. Goodrich Co., has been "slated for the general management of the consolidated interests. He may be to the rubber business what Schwab is in the United States Steel Corporation."

ANOTHER RUBBER FACTORY FOR AKRON.

RECENT newspapers reported that Akron had been visited by representatives of out-of-town interests, with a view to organizing a new mechanical rubber company and establishing a new factory in that place. The visitors to Akron were Charles Stein, S. Friedman, and J. Haber. A report from Akron to THE INDIA RUBBER WORLD says: "They are not giving out anything to the public as yet, Stein is the practical rubber man, and we understand that the others are furnishing the money. Stein has some wagon tire patents, and they will make his tires." It may be mentioned here that in September the incorporation was reported, under New Jersey laws, of the Stein Double Cushion Tire Co., with \$100,000 capital, the incorporators being K. K. McLaren, Evan J. Dudley, and H. S. Gould. The Stein tire was patented in 1892, being designed originally for bicycles. In THE INDIA RUBBER WORLD of January 1, 1901, it was described and illustrated, as adapted to vehicles of all kinds, being exploited at that time by the Stein Double Cushion Tire Co., of Meadville, Pennsylvania.

NEW ENGLAND RUBBER CLUB.

THE Club is to have a Fall dinner that bids fair to equal anything in the way of interest that has yet been planned. It is to be practically a "tropical symposium," among the speakers being, the Hon. William D. Owen, ex-secretary of state of Indiana; Wilfred A. Joubert, who has spent years in pioneering in Surinam, Professor B. T. Gallaway, chief of the bureau of plant industry, from the department of agriculture at Washington, and others. Formal notices of the dinner to members of the Club, will be sent out very soon. The date of the dinner will probably be November 21.

GUARANTEE RUBBER CO. (AKRON, OHIO.)

THE position of president and manager of this company has been taken by Charles C. Kelley, hitherto connected with the rubber factory of Morgan & Wright (Chicago), who has purchased the interest of R. T. Griffith in the Guarantee company.

TRADE NEWS NOTES.

THE directors of the Hub Gore Works (Brockton, Massachusetts) have awarded a contract for a two story brick addition to their factory in the town named, on the completion of which the factory will accommodate 150 looms. The company have factories at Rockland and Chelsea, Massachusetts, in addition to the one recently purchased at Bridgeport, Connecticut.

=The Joseph Banigan Rubber Co. (Providence, Rhode Island) were awarded a silver medal at the Pan American Exposition for the excellence of their products, and a bronze medal for the attractive appearance of their exhibit.

=James E. Odell, selling agent of the Danversport Rubber Co. (reclaimers of rubber), has removed his office in Boston to No. 186 Devonshire street.

=The Lycoming Rubber Co. (Williamsport, Pennsylvania) have excavated a large cellar under their warehouse building, to provide new storage room for crude rubber, and are preparing to erect a new office building.

=The Home Rubber Co. (Trenton) are making extensive additions to their already large plant. These additions embrace a new motor power, two additional boilers and a brick stack 125 feet high.

=The Summit City Machine Co., which has just been organized by well known Akron, Ohio, men, will give a part of its attention to the rubber trade. The rubber machinery business has attained large proportions in Akron and recently some considerable shipments have been made to Germany by the firms already in the trade.

=E. I. Aldrich, selling agent of the Hood Rubber Co. has recently been on a business tour of the western agencies, going as far as Omaha.

=The Cable Rubber Co. (Jamaica Plain, Mass.) have just installed a four roll calendar of Birmingham make. They are also contemplating quite an important addition to their mill.

=J. C. Wilson, who resigned from the Hartford Rubber Works Co. to accept a position with the Seamless Rubber Co. (New Haven), secured his release from the latter company after he had been there a short time, in order to assume an important position at the New York end of the Rubber Goods Manufacturing Co. The present executive force at the Seamless Rubber Co. are George M. Allerton, treasurer of the company, whose brilliant record is well known, and E. E. Menges, formerly of A. G. Spalding & Bro.

=D. E. Martin, formerly at the head of the selling department of the Seamless Rubber Co. (New Haven), has resigned from that position and is now connected with the Hardman Rubber Co. (Belleville, N. J.)

[=Latta & Mulconroy Co., Inc., (Philadelphia) advise THE INDIA RUBBER WORLD that a fire on October 25 did some damage to their rubber store. The loss was principally confined, however, to goods in the basement—hurt by smoke and water. Their doors were not closed, and they were able to fill orders without interruption.

=Two firms of rubber goods dealers suffered losses from a fire on October 18 on Federal street, Boston—Parker, Holmes & Co., and the Hosmer-Codding Co. The total loss, caused by water rather than by fire, is estimated at \$40,000 or more, the largest share falling on Parker, Holmes & Co.

=The Trenton Rubber Manufacturing Co., whose mechanical additions in the last two years have been very large and have been noted in THE INDIA RUBBER WORLD from time to time, are adding two more boilers to their already very large steam plant.

=The Alden Rubber Co. (Barberton and Akron, Ohio) are erecting a model office building at the factory at Barberton, though offices will still be maintained in Akron.

=A gold medal was awarded to the Robins Conveying Belt Co. (New York) at the Pan American Exposition, for their exhibit of belt conveyors, in the machinery department.

=John Kearns, late of Akron, Ohio, and now superintendent of the Dunlop tire and rubber factory at Melbourne, Australia, is now in England, buying some machinery.

=William A. De Long is successfully liquidating the business of the rubber department of O. G. Mayer & Co. Mr. Mayer, by the way, is visiting Europe.

=The machinery in the Chelsea (Mass.) rubber clothing plant of the old Boston Rubber Co. has been sold to Philip McGrory, of Trenton, N. J. The rubber glove machinery owned by the same company is now in use in Canada.

=The Hazleton Boiler Co., formerly of Nos. 120-122 Liberty street, New York, has just removed its main office to the works at Rutherford, New Jersey. Rutherford is only nine miles from New York city, on the Erie railroad, with satisfactory railroad service during the day.

=Mr. Kenzo Okada, who spent some years in the United States learning the rubber business, has taken a partnership in his uncle's factory at Tokyo, Japan—the Fujikura Insulated Wire and Rubber Works—and will add to their business the manufacture of high grade mackintoshes.

=The Colonial Rubber Goods Co. have removed their Boston office from No. 81 High street to No. 166 Essex street.

=The Joseph Stokes Rubber Co. (Trenton, New Jersey) have just added to their lines of manufacture that of linen hose, having put in the latest and best machines, so that they are to-day bringing out a very superior product.

=J. Stevens Arms and Tool Co. (Chicopee Falls, Mass.) advise THE INDIA RUBBER WORLD that they have disposed of the tire making machinery used formerly by the Overman Wheel Co., the business of which concern is now in the hands of the Stevens company.

=The Pennsylvania Rubber Co. (Erie, Pa.) have been awarded a gold medal at the Pan American Exposition for their display of rubber tires and mechanical rubber goods.

PERSONAL MENTION.

THE Waterbury (Conn.) *Daily Republican* has a very interesting sketch of Mr. George M. Allerton, treasurer of the Seamless Rubber Co., the wish of the paper being to make Mr. Allerton mayor of Waterbury. While Mr. Allerton appreciates the compliment, he is unwilling to allow his name to be used, as pressure of business would keep him from serving.

=Mr. John O. DeWolff, formerly assistant superintendent of the Boston Woven Hose and Rubber Co., at present consulting engineer with W. B. Smith Whaley Co. (Boston) was married on October 17 to Miss Anna Sprague Frothingham, of Cambridge, Mass.

=Mr. Elliott M. Henderson, treasurer of the Manhattan Rubber Manufacturing Co., New York, is at present in Nicaragua.

=Mr. George A. Lewis, president of the Beacon Falls Rubber Shoe Co. (Beacon Falls, Conn.), was a delegate to the twenty-seventh annual convention of the American Bankers' Association, at Milwaukee, on October 15-17, Mr. Lewis being the president of the National Bank of Naugatuck, Connecticut.

=Mr. A. H. Yeomans, so long with the Boston Rubber Shoe Co., having become connected with the general offices of the United States Rubber Co., has established his residence in New York, on the Riverside drive.

=Mr. Frank B. Rickaby, who represents Reimers & Co. in Akron, Ohio, was married October 16, to Miss Mary G. Wilkins, the ceremony taking place at Danvers, Massachusetts. Mr. and Mrs. Rickaby will make their home in Akron.

=The New York Credit Men's Association, which has done excellent work in commercial lines, both protective and educational, sends THE INDIA RUBBER WORLD its list of officers for the coming year, and a résumé of its work during the past twelve months. The association seems stronger and more helpful to the business community than ever before. It is interesting to note that beside those in the rubber trade who are members of the association, prominent rubber men are officers, the treasurer being Edward E. Huber, of the firm Eberhard Faber, while one of the investigating and prosecuting committee is H. M. Sadler, Jr., acting general manager of the United States Rubber Co.

REVIEW OF THE CRUDE RUBBER MARKET.

OUR record of quotations shows a decline in Pará sorts as compared with one month ago, practically no change in Centrals, and a lack of uniformity in change in Africans. Prices are not given for old Pará rubbers, owing to the lack of supplies in the market, but such transactions as have been made during the month have been at well maintained prices. A feature of the statistical situation is the continued arrival at the primary markets of larger supplies of Pará sorts than in any former year so early in the season. The summary presented further on brings up the record for the crop year to the end of September. The arrivals at Pará in October, up to and including the 28th, and taking into account the rubber in transit from Manáos, reached 3345 tons (including 60 tons of Caucho), whereas the estimate made at the beginning of the month called for only 2500 tons. The total arrivals for October last year were only 2235 tons, against 2256 tons in October, 1899, and 1900 tons in October, 1898. Opinion is divided in the trade as to what may be expected during the rest of the season. During the summer a short crop was predicted for this season, particularly from the upper Amazon, on account of the limiting of credits to rubber collectors, but in spite of this there have been rather good receipts of Upriver rubber. The fact that these have been in advance of the usual dates for such receipts suggests that the reason may be that operators in the rubber fields, having short supplies of money and provisions, have hurried their rubber to market as fast as gathered, in small lots, to exchange for supplies for carrying on further work. This idea is supported by the fact that much of the new rubber has come to hand in very wet condition.

New York quotations on October 30 were :

PARÁ.		AFRICAN.	
Islands, fine, new....70	@80	Tongues.....45	@46
Islands, fine, old.....	@	Sierra Leone, 1st quality	63 @64
Upriver, fine, new....83	@84	Benguella.	49 @50
Upriver, fine, old.....	@	Cameroon ball.....	45 @46
Islands, coarse, new....46	@47	Flake and lumps.....	32 @34
Islands, coarse, old....	@	Accra flake.....	17 @18
Upriver, coarse, new..63	@64	Accra buttons.....	47 @48
Upriver, coarse, old....	@	Accra strips.....	@
Caucho (Peruvian) sheet	51 @52	Lagos buttons.....	46 @47
Caucho (Peruvian) ball	58 @59	Lagos strips.....	@
CENTRALS.		Madagascar, pinky....	@
Esmeralda, sausage...54	@55	Madagascar, black....	@
Guayaquil, strip.....50	@51	EAST INDIAN.	
Nicaragua, scrap....54	@55	Assam.....	60 @61
Mangabeira, sheet....40	@41	Borneo.....	36 @46

Late Pará cables quote :

Islands, fine.	Per Kilo. 4\$850	Upriver, fine... ..	Per Kilo 6\$000
Islands, coarse	1\$950	Upriver, coarse.....	4\$000

Manáos advices, same date :

Upriver, fine.....	5\$000	Upriver, coarse.	3\$600
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Exchange 11 1/8 d.

NEW YORK PRICES FOR SEPTEMBER (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine.....	87@91	99 1/2 @103	101 @104 1/2
Upriver, coarse	65 @66	70 @72	77 @83
Islands, fine.....	84 @88	95 1/2 @99	96 @99
Islands, coarse.....	48 @50	55 @58	61 @63
Cameta, coarse.....	50 @51	56 @57 1/2	62 @64

tires and cushion tires,

In regard to the financial situation, Albert B. Beers, broker in India-rubber, No. 58 William street, New York, advises us :

"During October the money market in general has continued very steady, with a moderate demand for commercial paper

mostly from out of town banks, the ruling rates being 5@5 1/2 per cent. for the best rubber names, and 6 per cent. for those not so well known."

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total	Total	Total
	Fine and Medium.	Coarse.	1901.	1900.	1899.
Stocks, August 31.....	485	38 =	523	566	313
Arrivals, September.....	355	145 =	500	609	652
Aggregating.....	840	183 =	1023	1175	965
Deliveries, September.....	391	146 =	537	725	628
Stocks, September 30..	449	37 =	486	450	337
	PARÁ.		ENGLAND.		
	1901.	1900.	1899.	1900.	1899.
Stocks, August 31. . . .	190	255	695	980	1200
Arrivals, September... .	1850	1235	1350	645	310
Aggregating.....	2040	1490	2045	1625	1510
Deliveries, September..	1790	1032	1705	600	650
Stocks, Sept. 30..	250	458	340	1025	860
	1901.	1900.	1899.		
World's supply, September 30.....		2797	2664	1995	
Pará receipts, July 1 to September 30.....		4112	3188	3645	
Pará receipts of Caucho, same dates.....		283			
Afloat from Pará to United States, Sept. 30..		408	270	263	
Afloat from Pará to Europe, September 30....		628	240	605	

Balata.

SHIPPED from Caracas, Venezuela, September 24, by the steamer *Bolivar*, to Havre, 40,151 kilos; to Hamburg, 8966; to Southampton, 28,475; total, 77,592 kilos.

Liverpool.

WILLIAM WRIGHT & Co. report [October 1] : "Fine Pará.—The market has been dull, and prices have gradually declined, but at the close there is a firmer tone, and some signs of a slight reaction. Supplies continue to come forward freely, and it is now stated that the shortage in the crop will not become apparent until early next year, the strong buying both in Pará and Manáos at prices considerably over the parity of

SITUATION WANTED.

CHEMIST.—Wanted for the laboratory and sales department of a supply house, an energetic worker familiar with the chemistry and the compounding of the material used in rubber works. Applicant should give a full account of himself. Address WORKER, case of THE INDIA RUBBER WORLD. [57]

FOR SALE.

THREE bias cutting machines, especially built and suitable for cutting velveteens and other fabrics on the bias. Each machine cuts a 4 yard length at a stroke: has self-sharpening knives and adjustable automatic feed: is perfectly balanced, requiring but little power to operate. All are in perfect condition: equipped with fast and loose driving pulleys, feed tables, etc. Can be operated at the rate of from 45 to 50 cuts per minute. Address E. H. B., Box 165, New York. [103]

FOR SALE.—One 22x60 Stock and Friction Calendar, good as new; used only short time.

One nearly new 250 horse power Harris-Corliss engine.
Large Fire Pump, nearly new, and steam and water pipes; little used.
One 2 1/2 x 10 Devulcanizer Track and Carriage, and one 2 1/2 x 15 Track and Carriage.

One 12x36 Double Geared Grinder.
One 8x12 Washer.
One large Sturtevant Blower, No. 8. Also, several smaller Blowers.
Lot of Pulleys and Shafting, used only a short time.

PHILIP MCGORRY, Trenton, N. V.

those ruling here, lends color to this belief. Meanwhile the market is kept quiet here by offering small quantities at cheap rates, the bulk of present stock being quite off the market. Sales on spot only total 115 tons, and 125 for forward delivery, closing prices being 3s. 8d. for Upriver, and 3s. 7d. for Islands."

Marius & Levy [reporting October 15] continue to predict a shortage in the rubber production of the current year, despite the larger receipts at Pará, up to date, than usual. They write: "We beg to say that, in our opinion, this increase in the receipts will not last, and if it has taken place so far, it is simply owing to the fact that a number of firms in Brazil were rushing to get their stuff down as quickly as possible, in order to make remittances to their European creditors." The same firm predict also a shortage in Congo rubbers this year: "It is expected that the Congo crop will be reduced by approximately 20 per cent.; all the colonial concerns on the Congo being partially at a standstill, through the tremendous decline in their capital and shares, and, as there does not appear to be much chance of their raising fresh capital, the consequence is a fall in the receipts."

London.

JACKSON & TILL, under date of October 1, report stocks:

	1901.	1900.	1899.
LONDON { Pará sorts..... tons	—	—	—
Borneo.....	134	219	126
Assam and Rangoon.....	87	33	26
Other sorts.....	481	617	396
Total.....	702	869	548
LIVERPOOL { Pará.....	1024	866	428
Other sorts.....	1076	1111	855
Total, United Kingdom.....	2802	2846	1831
Total, September 1.....	2736	3170	1988
Total, August 1.....	2944	3645	1878
Total, July 1.....	3128	3653	2247
Total, June 1.....	3502	3624	2510
Total, May 1.....	3397	3952	2129

PRICES PAID DURING SEPTEMBER.

	1901.	1900.	1899.
Pará fine.	3/7 @ 3/9 1/4	4/1 @ 4/4 1/2	4/2 @ 4/3 3/4
Negrobards, Islands.....	2/0 1/2	2/4	2/6 1/2
Do scrappy.....	2/8 @ 2/9	2/11 @ 3/0 1/2	3/2 1/2 @ 3/5
Bolivian.....	3/9	4/2 1/4 @ 4/4	4/3 1/2 @ 4/4

Declining Rubber Output of Angola.

RECENT reports in these pages from Lisbon have pointed to a decline in the rubber output of Portuguese West Africa. Herewith is a statement showing exports from the various ports during 1900:

	pounds
Benguella.....	2,606,602
Loanda.....	1,643,648
Mossamedes.....	90,402
Ambriz.....	50,226
Total.....	4,390,878

This is a decline of about 40 per cent. as compared with the previous year, when the output was the largest on record. We now have figures indicating the total output for this territory for the following years, in addition to the above—in pounds:

1888.	1891.	1895.	1896.	1898.	1899.
2,967,081	4,083,064	4,652,698	5,025,991	7,431,305	7,436,026

The value is given at 3,605,735 Portuguese milreis in 1900 against 5,716,567 in 1899, the milreis being worth \$1.08 gold.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the sales on September 24 about 475 tons, mostly Congo sorts, were exposed, of which about 307 tons found buyers at unchanged prices. The brokers' valuations, based on the preceding sale were reached in most cases, the fine qualities commanding sometimes a slight premium.

On October 7 a large transaction was concluded for the

United States. The whole stock of Upper Congo—Lopori on the spot, amounting to 303 tons, together with 29 tons shortly expected per steamer *Anversville*, was sold on private terms. This quantity included 69 tons Lopori I and 165 tons Lopori II, besides 98 tons Lopori I and II. The firsts are understood to have been valued at 7.85 francs per kilogram and the seconds at 6.25@6.50.

At the sales on October 31 will be offered, among other lots—

61 tons Upper Congo—Equateur.....	valuation f7.50
41 " Upper Congo—Aruwimi.....	5.50
62 " Upper Congo—small strips.....	6.25
43 " Upper Congo—Yengu.....	7.90
42 " Uellé.....	5.35

C. SCIMID & CO.

Antwerp, October 9, 1901.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since the inscription sale of September 24, and especially since the beginning of October, large sales have taken place—including about 332 tons Lopori on spot and Lopori to arrive—on private terms. The stock of rubber which, at the end of September amounted to 896 tons, is now reduced to about 550 tons. The next inscription sale will be held on October 31.

E. KARCHER & CO.

Antwerp, October 8, 1901.

ANTWERP RUBBER STATISTICS FOR SEPTEMBER.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stock, Aug. 31. Kilos	684,355	1,056,124	400,432	144,526	157,278
Arrivals September.	887,256	417,050	232,517	192,531	251,315
Congo sorts.....	871,360	359,232	230,123	147,871	238,789
Other sorts.....	15,896	57,818	2,394	44,660	12,526
Aggregating....	1,571,611	1,473,174	632,949	337,057	408,593
Sales September....	675,468	468,412	325,467	110,183	151,244
Stocks, Sept. 30....	896,143	1,004,762	307,482	226,874	257,349
Arrivals since Jan. 1	4,726,126	4,584,468	2,628,387	1,415,479	1,315,785
Congo sorts.....	4,382,856	3,866,145	2,324,769	1,205,671	1,218,347
Other sorts.....	343,270	718,323	303,618	209,808	97,438
Sales since Jan. 1..	4,443,932	3,871,697	2,584,245	1,283,068	1,198,064

ARRIVALS AT ANTWERP.

SEPTEMBER 21.—By the *Stanleyville*, from the Congo:

Ch. Dethier (Société Belgika).....	kilos.	4,000
M. S. Cols. (Société Lubefu).....		7,000
Bunge & Co. (Domaine privé Etat du Congo).....		21,000
Bunge & Co. (Plantations Lacourt).....		6,900
Bunge & Co. (Comité Spécial Katanga).....		8,300
Société A B I R.....		69,300
Société Coloniale Anversoise (Belge du Haut Congo)		16,600
Société Coloniale Anversoise (Société Lomami).....		13,000
		146,100

OCTOBER 11.—By the *Anversville*, from the Congo:

Ch. Dethier (Société Belgika).....	kilos	3,500
Ch. Dethier (Société la Loanjé).....		2,000
M. S. Cols (Société Lubefu).....		7,000
Société Coloniale Anversoise (Belge du Haut Congo).		3,000
Société Coloniale Anversoise (Süd Kamerun)		800
Société Coloniale Anversoise (Société La Djuma)....		4,500
Société Coloniale Anversoise (Lomami).....		5,000
Bunge & Co. (Domaine privé Etat du Congo).....		91,000
Bunge & Co. (Société Anversoise).....		18,000
Bunge & Co. (Société Isanghi).....		7,700
Bunge & Co. (Plantations Lacourt).....		12,700
L. & W. Van de Velde (Comptoirs Congolais Velde).		1,000
Société ABIR.....		29,700
Comptoir Commercial Congolais.....		29,800
Evrard Havenith (Andréa).....		1,000
		216,700

A RECENT circular from G. van den Kerckhove (Antwerp) contains a reference to the movement to consolidate the traffic of the Kassai region, in the Congo basin, under the name "Le Syndicate au Kassai." From a commercial point of view, and also with regard to the improvement in the quality of rubber,

the Antwerp circular regards the idea with favor. The Kassai being one of the richest regions in the Congo Free State, great results should follow its exploitation under more competent direction than in the past, and this might better be done under a single control, with a consolidation of resources. First of all should be expected a change in the methods of handling rubber. For too long a time have three fourths of the lots offered in Antwerp been spoiled, through the lack of proper treatment in the original preparation of the rubber. It has been stated that the quality of Congo rubber has suffered from its prolonged storage in the territory of production, but occasional lots of very old rubber reach Antwerp from Sierra Leone, Gambia, Portuguese Congo, and East Africa in a state of perfect preservation. There are better methods of preparing rubber than have been used in the Kassai country, and they are going to be adopted. It is natural that any enforced production of a commodity by native labor should entail inferiority of quality, but the over-heating of the rubber can be avoided in large measures. Deterioration mostly begins after the merchandise has been packed and stored in the warehouses.

Bordeaux.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since our last report the demand for Caoutchouc in this market has been more active, and the following prices have been obtained, in francs per kilogram:

Soudan twists, fine...6.70@6 95	Cassamance, C..... 3.
Do ordinary...6.10@6.45	Grand Bassam, lump.. 5.
Soudan niggers, fine...6.20@6 25	Do niggers 5.70
Do ordinary...4.50@5.	Grand Lahou ... 5.00@5.25
Cassamance, A. P.... 6.80	Madagascar niggers...4.50@5.
Do A... 5.40	Do Tamatave.5.50@5.75
Do A. M.... 4.60	Do Majunga.4.50@5.
Do B..... 3.60	New Caledonia 8.15

Arrivals since last report:

Sept. 25.—By the <i>Ville de Maranhao</i> :	Kilos.
Cassamance.....	2,500
Sept. 26.—By the <i>Child</i> :	
Soudan twists.....	10,300
Oct. 8.—By the <i>Tamesi</i> :	
Soudan twists and niggers.....	12,200
Oct. 12.—By the <i>Brsil</i> :	
Soudan twists.....	8,500
Total.....	33,500

P. CHAUMEL.

Bordeaux, October 14, 1901.

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Hamburg market during the last week opened very unsteady along the whole line, and was exceptionally dull. This want of activity held the transaction within such moderate bounds, that there is scarcely anything new to report. Pará sorts, at the beginning, were somewhat firm, caused no doubt by the shortage in some quarters, but the interest in them soon became listless, and they receded from the improved condition gained.

Of the middle sorts, which were in part very quiet, the Africans—Fine Mozambique balls and spindles, Massai, Batanga balls and thimbles—deserve mention; they were in good demand, and prices were well maintained. All other sorts, as a rule, were more or less neglected. Transactions were concluded at the following figures, in marks per kilogram:

Pará fine, hard cure, spot.....	8.15@8.20
Mollendo fine, spot.....	7.75@7.85
Mollendo fine, delivery.....	7.80@7 90
Santos sheets, fine.....	4.25@4.40
Mangabeira, Babia.....	3.50@3.75
Mangabeira, Pernambuco.....	3.40@3.60
Mozambique balls, red, finest.....	7.80@7.85
Mozambique balls, red, fine.....	7.40@7.60
Mozambique balls, good.....	7 00@7 20
Mozambique balls, red and white.....	6.50@6.60
Mozambique balls, black and white.....	6.25@6.40
Massai niggers.....	5.75@5 80
Massai niggers, mixed.....	5.20@5 25
Batanga balls.....	4.15@4 20
Lomé niggers.....	3 50@3 55

Hamburg, October 15, 1901.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

October 1.—By the steamer *Grangense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
New York Commercial Co.	120,900	61,000	99,700	1,100	282,700
Crude Rubber Co.....	85,700	22,100	29,900	....	137,700
A. T. Morse & Co.....	21,700	3,100	80,700	....	105,500
Joseph Banigan Rubber Co	16,800	3,400	2,200	9,900	32,300
Reimers & Co.....	....	....	23,200	....	23,200
Herbst Brothers.....	300	1,100	200	300	1,900
Total.....	245,400	90,700	235,900	11,300	583,300

October 10.—By the steamer *Amazonense*, from Pará:

New York Commercial Co.	54,600	17,000	69,700	....	141,300
A. T. Morse & Co.....	3,700	....	43,700	....	47,400
Boston Rubber Shoe Co..	....	....	22,700	....	22,700
Crude Rubber Co.....	30,600	4,000	5,100	....	39,700
Reimers & Co.....	....	....	17,600	....	17,600
Total.....	88,900	21,000	158,800	....	268,700

October 16.—By the steamer *Hubert*, from Manáos and Pará:

New York Commercial Co.	122,200	62,300	83,800	8,900	277,200
Crude Rubber Co.....	101,400	19,000	15,500	900	136,800
A. T. Morse & Co....	42,600	4,900	35,600	2,500	85,600
Reimers & Co.....	35,000	13,200	20,500	..	68,700
Lawrence Johnson & Co..	6,400	700	600	....	7,700
G. Amsinck & Co.....	6,400	300	700	....	7,400
L. Hagenaeers & Co.....	2,500	....	400	....	2,900
Total.....	316,500	100,400	157,100	12,300	586,300

October 22.—By the steamer *Hilary*, from Pará:

New York Commercial Co.	174,300	40,400	73,000	900	288,600
A. T. Morse & Co.....	40,700	7,400	126,600	....	174,700
Crude Rubber Co....	35,900	8,600	6,600	....	51,100
Boston Rubber Shoe Co..	....	....	22,700	....	22,700
Reimers & Co.....	8,600	1,100	3,600	....	13,300
Total... ..	259,500	57,500	232,500	900	550,400

[NOTE.—The steamer *Fluminense*, from Pará, with 335 tons of rubber aboard, was due at New York on October 30.]

PARA RUBBER VIA EUROPE.

	POUNDS.
Oct. 3.—By the <i>Majestic</i> =Liverpool:	
A. T. Morse & Co. (Caucho).....	37,000
Reimers & Co. (Caucho).....	22,500
Oct. 7.—By the <i>Umbria</i> =Liverpool:	
Reimers & Co. (Caucho).....	31,500
A. T. Morse & Co. (Caucho).....	22,500
Oct. 9.—By the <i>Oceanic</i> =Liverpool:	
Reimers & Co. (Caucho).....	45,000
A. T. Morse & Co. (Coarse).....	10,000
Oct. 12.—By the <i>Lucania</i> =Liverpool:	
Robinson & Tallman (Coarse).....	13,500

Oct. 17.—By the <i>Teutonic</i> =Liverpool:	
Reimers & Co. (Coarse).....	4,500
Crude Rubber Co. (Caucho).....	2,000

Oct. 21.—By the <i>Etruria</i> =Liverpool:	
Reimers & Co. (Coarse).....	8,000
A. T. Morse & Co. (Coarse).....	7,000

OTHER ARRIVALS AT NEW YORK

	POUNDS.
SEPT. 23.—By the <i>Alleghany</i> =Greytown:	
A. P. Strout.....	6,500

Andreas & Co.....	4,000
Maltus & Ware.....	2,500
D. A. De Lima & Co.....	4,000
Kuhlhardt & Co.....	5,000
G. Amsinck & Co.....	2,500
Lawrence Johnson & Co.....	1,500
S. Samper & Co.....	500
Jimenez & Escobar.....	300
For London.....	1,500
Total.....	28,300

SEPT. 24.—By the <i>Advance</i> =Colon:	
W. Loalza & Co.....	4,000
W. L. Rathbun & Co.....	400
G. Amsinck & Co.....	500
Lawrence Johnson & Co.....	500
Smithers, Nordenholdt & Co.....	500
Total.....	5,000

CENTRALS—Continued.

SEPT. 24.—By *El Norte*=New Orleans:
Eggers & Heinlein 7,000
For London 4,000 11,000

SEPT. 29.—By the *Germanic*=Liverpool:
Reimers & Co. 10,600

SEPT. 28.—By the *Hevelius*=Bahia:
J. H. Rossbach & Bro 21,500

SEPT. 28.—By the *Prins Willem V.*=Trinidad:
Thebaud Bros., (Angostura Fine) ... 6,800
Thebaud Bros., (Angostura Coarse). 3,200 10,000

SEPT. 28.—By the *Esperanza*=Mexico:
H. Marquardt & Co. 1,000
Thebaud Brothers. 200
E. N. Tibbals. 300
For Europe 3,000 4,500

SEPT. 30.—By the *Protus*=New Orleans:
A. T. Morse & Co. 2,500

Oct. 1.—By the *Allai*=Savannah:
Kunhardt & Co. 5,000
Jimenez & Escobar 1,200
G. Amsinck & Co 1,500
Lawrence Johnson & Co. 1,000
D. A. DeLima & Co. 1,000
Sussdorf, Zaldo & Co 200 9,900

Oct. 1.—By *El Rio*=New Orleans:
George J. Worth 1,500
Eggers & Heinlein. 7,500 9,000

Oct. 4.—By the *Montrey*=Mexico:
H. Marquardt & Co. 2,000
Fred. Probst & Co 200
E. N. Tibbals. 300 2,500

Oct. 1.—By the *Allianca*=Colon:
G. Amsinck & Co. 10,000
Hirzel, Feltman & Co 9,000
Roldan & Van Sickle. 5,000
Flint, Eddy & Co. 2,800
Gillespie Bros. & Co. 3,600
Joseph Hecht & Co. 2,400
L. N. Chemedlin. 1,700
T. N. Morgan 1,000
Crude Rubber Co 1,400
D. N. Carrington. 950
Lawrence Johnson & Co 600 38,400

Oct. 3.—By Pennsylvania RR.—New Orleans:
G. Amsinck & Co. 4,500
D. A. De Lima & Co. 1,500
Jimenez & Escobar 1,000
L. N. Chemedlin. 700
Silva, Bussenius & Co 600 8,300

Oct. 8.—By the *Adirondack*=Greytown:
A. P. Strout. 7,500
Andreas & Co 1,000
G. Amsinck & Co 2,500
A. D. Straus & Co. 2,000
Kunhardt & Co. 1,000
L. Johnson & Co. 500
Roldan & Van Sickle. 500
Jimenez & Escobar. 200 16,200

Oct. 8.—By the *Seneca*=Mexico:
Flint, Eddy & Co 700
J. W. Wilson & Co 500
H. Marquardt & Co. 300
L. N. Chemedlin. 300
E. Steiger & Co 200 2,000

Oct. 9.—By the *Coleridge*=Bahia:
J. H. Rossbach & Bros. 12,000

Oct. 8.—By the *Finance*=Colon:
A. Santos & Co 8,700
G. Amsinck & Co 5,000
Crude Rubber Co 3,100
Hirzel, Feltman & Co. 2,900
Frame, Alston & Co 1,800
Eggers & Heinlein. 500
For Europe 1,500 23,500

Oct 12.—By the *Havana*=Mexico:
H. Marquardt & Co 700
E. Steiger & Co 500
For London 1,500 2,700

Oct. 14.—By the *Louisiana*=New Orleans:
A T. Morse & Co. 4,000
A. N. Rotholz. 1,500 5,500

Oct. 15.—By the *Alene*=Savannah:
Jimenez & Escobar 3,500
G. Amsinck & Co 4,000
Lawrence Johnson & Co. 500 8,000

Oct. 15.—By the *Orizaba*=Colon:
Isaac Brandon & Bros 3,600
Dumarest & Co. 2,200
Suzarte & Whitney 1,500
Eggers & Heinlein. 1,500
Frame, Alston & Co. 1,300
Roldan & Van Sickle 1,200
Flint, Eddy & Co 1,100
Hirzel, Feltman & Co. 1,100
G. Amsinck & Co 1,000
D. N. Carrington 600 15,100

CENTRALS—Continued.

Oct. 15.—By *El Norte*=New Orleans:
A. T. Morse & Co. 5,000
A. N. Rotholz. 2,500 7,500

Oct. 16.—By Pennsylvania RR.=New Orleans:
G. Amsinck & Co. 5,000
Kunhardt & Co. 600
L. Johnson & Co 400 6,000

Oct. 17.—By the *Maskelyne*=Bahia:
J. H. Rossbach & Bros. 9,000
Booth & Co 2,000 11,000

Oct. 21.—By *El Cid*=New Orleans:
A. T. Morse & Co. 12,000
Eggers & Heinlein. 4,500 16,500

Oct. 21.—By the *Alleghany*=Greytown:
A. P. Strout 5,000
A. D. Straus & Co. 2,500
Andreas & Co 1,500
S. Samper & Co 4,000
Jimenez & Escobar 3,500
G. Amsinck & Co 1,300
D. A. De Lima & Co. 1,000
Kunhardt & Co. 500 19,300

Oct. 22.—By the *Advance*=Colon:
G. Amsinck & Co 2,800
Smithers, Nordenholdt & Co. 1,100
H. Marquardt & Co. 700
Joseph Hecht & Co. 300 4,900

SEPT. 24.—By the *Friesland*=Antwerp:
Crude Rubber Co 117,500
George A. Alden & Co 28,000
Reimers & Co. 12,000
Livesey & Co. 13,000 170,500

SEPT. 27.—By the *Germanic*=Liverpool:
George A. Alden & Co. 7,000
Crude Rubber Co 6,000
Livesey & Co. 3,500 16,500

SEPT. 28.—By the *Campania*=Liverpool:
Livesey & Co. 7,000

Oct. 3.—By the *Majestic*=Liverpool:
Reimers & Co. 13,000

Oct. 5.—By the *Patricia*=Hamburg:
Reimers & Co. 10,500
Livesey & Co. 11,500
George A. Alden & Co 6,500 28,500

Oct. 7.—By the *Umbria*=Liverpool:
Reimers & Co. 5,500
Livesey & Co. 4,500 10,000

Oct. 7.—By the *Vaderland*=Antwerp:
A. T. Morse & Co. 78,000
George A. Alden & Co. 55,000
Crude Rubber Co 11,500
Reimers & Co. 6,500 151,000

Oct. 9.—By the *Oceanic*=Liverpool:
George A. Alden & Co 11,000
Crude Rubber Co. 10,000
Reimers & Co. 5,500 26,500

Oct. 11.—By the *Graf Walderssee*=Hamburg:
Livesey & Co. 17,500

Oct. 11.—By the *St. Cuthbert*=Antwerp:
Joseph Cantor. 20,000

Oct. 12.—By the *Lucania*=Liverpool:
Robinson & Tallman 55,000
George A. Alden & Co. 16,000
Livesey & Co. 12,000 83,000

Oct. 14.—By the *Bohemian*=Liverpool:
Crude Rubber Co 23,000
George A. Alden & Co. 22,500 45,500

Oct. 16.—By the *Kensington*=Antwerp:
George A. Alden & Co 53,000
Reimers & Co 3,500
Crude Rubber Co 52,500 109,000

Oct. 17.—By the *Teutonic*=Liverpool:
Reimers & Co. 8,000
Crude Rubber Co 6,000
George A. Alden & Co. 6,000
Carter, Bell & Co 2,000 22,000

Oct. 21.—By the *Etruria*=Liverpool:
Livesey & Co. 18,000

Oct. 21.—By the *British King*=Antwerp:
Joseph Cantor. 18,500

Oct 21.—By the *Palatia*=Antwerp:
Reimers & Co. 15,000

Oct. 22.—By the *Zeeland*=Antwerp:
Livesey & Co. 15,000
Reimers & Co. 4,500 19,500

Oct. 23.—By the *Cevic*=Liverpool:
Reimers & Co. 35,000

EAST INDIAN.

Oct. 11.—By the *Amana*=Calcutta:
Reimers & Co. 4,500

Oct. 14.—By the *St. Louis*=Southampton:
A. T. Morse & Co. 500

Oct. 18.—By the *Hudson*=Singapore:
Robert Brans & Co. 9,000

Oct. 21.—By the *Etruria*=Liverpool:
Reimers & Co. 10,000

Oct. 22.—By the *Arara*=Singapore:
Reimers & Co. 1,000

PONTIANAK.

Oct. 18.—By the *Hudson*=Singapore:
Robert Brans & Co. 210,000

Oct. 22.—By the *Arara*=Singapore:
Reimers & Co. 500,000
George A. Alden & Co. 200,000 700,000

GUTTA-PERCHA AND BALATA.

SEPT. 24.—By the *Manitou*=London:
Spaulding Manufacturing Co 7,000

Oct. 1.—By the *Sardinian*=Glasgow:
Reimers & Co. 2,500

Oct. 18.—By the *Hudson*=Singapore:
Reimers & Co. 1,500

Oct. 21.—By the *Palatia*=Hamburg:
Reimers & Co. 11,500

Oct. 22.—By the *Menominee*=London:
Spaulding Manufacturing Co 6,500

BALATA.

SEPT. 28.—By the *Prins Willem V*=Trinidad:
George A. Alden & Co 500

Oct. 1.—By the *Sardinian*=Glasgow:
Earle Brothers 3,500

Oct. 10.—By the *Amazonense*=Barbados:
Middleton & Co. 11,000

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—SEPTEMBER.

Imports:	POUNDS.	VALUE.
India-rubber.....	3,140,501	\$1,520,526
Gutta-percha.....	28,305	15,163
Gutta-jelatong (Pontianak)...	1,296,430	48,359
Total.	4,465,236	\$ 581,048
Exports:		
India-rubber.....	66,588	\$55,287
Reclaimed rubber.....	99,715	13,726
Rubber Scrap Imported.....	949,757	\$ 64,192

BOSTON ARRIVALS.

POUNDS.

SEPT. 4.—By the *Sachem*=Liverpool:
Reimers & Co.—African..... 50,115

SEPT. 5.—By the *Storm King*=Antwerp:
Robinson & Tallman—African..... 1,842

SEPT. 9.—By the *Devonian*=Liverpool:
Robinson & Tallman—Caucho..... 11,869

SEPT. 15.—By the *Michigan*=Liverpool:
Reimers & Co.—Caucho 22,500
Reimers & Co.—African. 12,600 35,100

SEPT. 16.—By the *Kensington*=Antwerp:
Crude Rubber Co.—African..... 4,103
George A. Alden & Co.—African..... 29,150 33,253

[Included in New York arrivals by the *Kensington*, September 10.]

SEPT. 29.—By the *Sagamore*=Liverpool:
Reimers & Co.—African..... 21,672
Crude Rubber Co.—Caucho..... 1,274 22,946

SEPT. 30.—By the *Friesland*=Antwerp:
Livesey & Co.—African..... 13,382

[Included in New York arrivals by the *Friesland*, September 24.]

Total..... 168,521
[Value, \$84,089.]



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ON FIXING CRUDE RUBBER PRICES.

THE American houses engaged in the crude rubber trade do not, as is the practice of several European firms, publish periodical comments on the conditions of the market. If they did, it is possible that the tendency of prices at times might be attributed to the action of importers or merchants on the other side of the Atlantic, just as the reports issued there so often attempt to fix the responsibility for fluctuations upon firms in New York. There is probably no other commercial problem so perplexing as that of determining the elements which actually fix the prices of crude rubber. Hence it is not strange if, in any rubber trading center, it should be assumed that the controlling influence exists in some other place; to find that other place is a perpetual puzzle.

The remoteness from commercial centers and the lack of civilized conditions in the regions whence crude rubber is obtained, the risks of life and of capital in procuring this material, the difficulties in the way of controlling the business in its primary stages—all these considerations render impossible such definite forecasts of the rubber "crop" as may be made of the yearly yield, for instance, of wheat or cotton, or the production of any staple of manufacture. When it is considered, further, that the yearly consumption of rubber is variable, it will be seen that, in a way, the crude rubber business is a distinctively speculative one. That is to say, the crude rubber merchant cannot figure certainly, very long in advance, what his purchases may be expected to cost him, because he can predict the extent of neither the supply nor the demand for rubber. Naturally, therefore, a higher rate of profit must be figured on, in every stage in the progress of rubber from the forest, than in lines of business that have become more systematized. A handsome gain on one transaction is liable at any time to be offset by a loss on the next.

Within a year there have not been lacking charges in European rubber trade circulars that New York houses have sold rubber at lower prices than the conditions of the trade warranted—with a suggestion of some ulterior motive. So long as contracts for the sale of rubber must be made often in advance of the arrival of the rubber in stock, there must be differences of opinion as to what prices should be named, and if an importer or merchant should make a wrong forecast, we fail to see wherein his act is reprehensible. We have known manufacturers to make just as marked mistakes in paying too much for rubber for future delivery, but nobody has seen fit to charge them with improper conduct. But so far as the charge of "bearing" prices by New York merchants is concerned, it may be pointed out that the downward tendency of rubber for the past twelvemonths has vindicated them.

As for manipulating the market, we venture to say that there is not a house in New York, Liverpool, or Pará that could, either alone, or with all the connections that it possesses, very long maintain a higher level of prices for rubber than the conditions of supply and demand warrant. Even if all the larger houses on either side of the

Atlantic were to combine in an attempt to keep prices at an inordinately high level—or, in other words, to make more than a reasonable profit—it would only make an opportunity for smaller dealers to put rubber on the market at prices which would simply yield a fair profit, in which event any “corner” would be of very short duration.

WHY THE “LITTLE FELLOW” FLOURISHES.

IT is often a matter for wonder that, in the shadow of some great industrial amalgamation, so many small companies spring up, prosper, and even grow to be giants themselves. As a matter of fact, the reason is patent, and not far to seek. The big companies are forced by the volume of their business to employ men who soon lose their individuality and become such small factors in the whole business that they stop thinking. Not one of them individually is responsible for the solution of vital problems—they go before a board of directors, who often are handicapped by political and financial facts, besides being burdened by an ever increasing amount of detail. The “little fellow,” however, is “up against” necessity, the fruitful mother of invention, and his existence depends upon cheaper methods, shorter cuts, and revolutionary processes. He thinks night and day, and the chances are that the dwarf will outwit the giant in the long run. The great companies stand ready to pay the highest prices for brains, but genius works for itself better than for others. Hence it is a matter of history that the best thought and the most brilliant records are likely to come from the struggling outsiders. Anything that stimulates progress is to be respected, and not in the least should the so called “trusts” fail to receive their due meed of appreciation for the success they have won for others.

THE REVOLUTION IN RUBBER SHOE MAKING.

BY far the most interesting topic of conversation in the rubber trade for a month past has been the new process for the manufacture of rubber shoes. As becomes a dignified, rich, and respectable industry, the rubber shoe trade received the news with marked interest, but with little apparent excitement. That, however, did not prevent a very careful analysis of the statements made in THE INDIA RUBBER WORLD, and a searching inquiry into every detail of the new manufacture as far as it was known. As a matter of fact, for the last thirty days rubber shoe men the world over have had on their thinking caps, and so have many others, particularly in the mechanical line, for the latter were quick to see that any man with a sheet calender and a friction calender could easily equip himself to be a rubber shoe manufacturer. The editor of THE INDIA RUBBER WORLD, as the news-bearer of the trade, has, as a matter of course, heard every objection advanced that experience, ingenuity, and self protection could bring forward, but a careful review of the whole situation leads him again to go on record with the statement that the revolution is here. Further, the advances made during this month, in the production of goods more beautiful than

has ever before been deemed possible, leads him to affirm that the time is not far distant, in his judgment, when the present process of manufacture not only will cease, but will be forgotten.

FEDERAL CONTROL FOR TRUSTS.

THE United States Industrial Commission, created by an act of Congress, will have finished its work, and submitted its report by the middle of this month. The gist of their recommendations is said to be that Trusts shall be brought under Federal instead of state supervision. That is, that they shall be looked after, much as national banks are, and that their books shall be open to the inspection of certain Federal officers who shall have powers similar to the familiar bank examiners. The commissioners believe that by this means they can prevent over-capitalization, and the underselling to crush competition in one part of the country, while prices are advanced in other territory. The plan is to induce the corporations to become Federal instead of state corporations in much the same way that state banks were both coaxed and forced to become national banks. The proposal is said to be to put a tax either on the products or on the corporation itself which is capitalized above a certain figure. Such a plan would of course include a national corporation law and a department, say one of Commerce and Industries, to charter companies for interstate commerce.

A TYPICAL INSTANCE.

ALONG the New Jersey coast, at the great seashore resorts, there are miles of piers all built upon piles. Until recently these piles were driven into the sand by the old fashioned and familiar pile driver. To day, however a cheaper and quicker system prevails, and one incidentally that calls for India-rubber as an adjunct to its success. Instead of hammering the log down into the earth by main force, it is set in position, its lower end resting on the sand, and then a stream of water led through rubber hose plays into the sand at the foot of the pile. Instantly it is undermined and begins to sink and just as long as the stream flows just so long does the pile sink. The instance is typical. In like manner in the treatment of nearly every engineering or mechanical problem, has India-rubber come to the aid of the worker and in one way or another proved its marvellous adaptability—its immense ubiquitous usefulness.

COMPOUNDING RELIGION WITH RUBBER.

WE are again reminded of the Chiapas Rubber Plantation and Investment Co., of San Francisco, which has been mentioned more than once in THE INDIA RUBBER WORLD, by the receipt of a circular letter which seems to merit some comment. In October, 1900, under the heading “Is this Rubber Plantation a Myth?” we gave the substance of a lengthy article on the Chiapas enterprise from the San Francisco *Chronicle*, denouncing the methods of its manager, the “Rev.” J. W. Ellsworth, who was reported to have been very successful in sell-

ing shares to church people. Although the *Chronicle's* statements were very definite, and of a character such as might invite a libel suit, they were dismissed by the persons most interested, in a letter to THE INDIA RUBBER WORLD, to the effect that—

Of course you understand that this is the attack of a bitter enemy, made with the intention of ruining Mr. Ellsworth and the company. The thing was so thoroughly overdone as to utterly lose its effect.

This letter appeared in full in an article published in our November, 1900, issue, under the heading "What is The Truth About Chiapas?"—a question not answered satisfactorily in the mass of printed circulars and statements sent to us at that time from the company's office. At a still later date—January, 1901—under the heading "Rubber Planting Companies to Avoid," the Chiapas concern was one of those referred to as having discredited themselves by the character of their advertising matter. Our article of that date said:

Thus far it would seem that the planting done by this company [the Chiapas] has been done only on paper, and that paper not such as will bear very close scrutiny.

Now comes a pamphlet from the "Chicago Chiapas Rubber Plantation Co., authorized selling agent for the San Luis division of the Chiapas Plantation," of which Chicago concern one A. J. Scott is "president and manager." Of course this pamphlet quotes our old friend Consul Guenther, in regard to the wonderful trees in Chiapas "which have been tapped for 35 years and are now producing 50 pounds of rubber annually to the tree." And, by the way, it is strange that the practical rubber planters in Mexico are all silent on the subject of Consul Guenther and his trees.

But it is not Mr. A. J. Scott's pamphlet, but the accompanying circular letter, that is most interesting. It begins with "a few personal words." In the second sentence he mentions having been pastor of a church near Chicago for seven years. Then he tells how he longed for "a secure place" in which to invest his small savings "where they would eventually pay large profits." It appears that he went to California and met the Rev. J. W. Ellsworth, and now he is seeking to emulate Ellsworth in Chicago.

I do not expect you to accept my statements simply because I am a minister in good standing [says the Rev. A. J. Scott], but that may be a sufficient reason for reading the little pamphlet which I send you.

In the pamphlet one may read, set in capital letters—

100 POUNDS OF RUBBER HAVE BEEN TAKEN FROM AN OLD TREE AT A SINGLE TAPPING.

—followed by this in smaller type:

The cost of transportation is an inconsiderable item. Here is an article worth \$1 a pound that we can ship from our plantation to New York or London for less than 1 cent per pound. We could sell rubber for 10 cents a pound and pay good dividends; we could ship our product by mail and pay large profits to shareholders.

But we must quote from the Rev. A. J. Scott's letter again:

Certainly no man who believes in the Gospel should think lightly of this thing because it seems TOO GOOD.

All of which suggests that, however religion may be regarded in its own proper place, the mixture of religion with rubber planting on paper makes a sorry combination in the eyes of people who really know anything about rubber.

AN AMERICAN PACIFIC CABLE, it now appears, will be ready for work, as far as Hawaii, as soon as an order already placed with the great Silvertown company can be executed. It was to be hoped that, by the time American capital and enterprise was ready for this new field, an American factory would be prepared to build an ocean cable. But there will be many miles

of such cables to be laid yet, and the field is as open to American skill and energy and capital as to the same elements of progress in any other country. It is a good thing, by the way, that the new Pacific cable is to be under private control. Doubtless it would be well managed by the government, but it is more in harmony with American sentiment and tradition for such enterprises to be left to private initiative and management.

THE TIME REQUIRED FOR RUBBER TREES to reach a productive age may appear long to those whose ideas of planting have been confined to the growth of crops each year, between spring and autumn. It is natural, therefore, that a tendency should exist to plant "short crops," which may mature and yield an income from the same ground, while rubber seedlings are maturing into productive trees. But what would the rubber planters who are impatient at waiting seven or eight years for a "crop" think of "going in" for the cultivation of timber, as is done in Perak, for instance? We mention this because a report received from the region mentioned states that the object of a certain plantation is to grow timber, and "Pará" rubber trees are interplanted with the young growth of other woods, "chiefly in order to obtain some return from the plantation during the first ten or fifteen years of its existence, and before the timber can be of any value." Think of Pará rubber for a "short crop!"

THE MOST INTERESTING FEATURE of the second annual automobile show under the auspices of the Automobile Club of America, held at Madison Square Garden, in New York, during the past month, from the standpoint of the rubber industry, was the marked predominance of the pneumatic tire in the equipment of the vehicles exhibited, and, further, the indication of a tendency in favor of detachable tires in preference to the single tubes. It appears settled that, so long as pneumatic tires are used, their liability to puncture will exist, and, no matter what may be true of the ease of repair of single tube bicycle tires, a more difficult proposition is encountered when repairs are necessary on the heavy type of tires required for automobiles. Hence the advantage of having a tire with an outer cover capable of being treated independently of the air tube. All the various types of tires were shown in Madison Square Garden, however, and all with their advocates, apart from the manufacturers and dealers interested. By the way, the exhibition was the most successful of its class yet held in America, indicating both progress in the evolution of practical automobile construction, and an increase in public interest in the new vehicles and public intelligence regarding them.

TESTS SHOWING THE ADULTERATION of crude rubber and the various ingredients used in the rubber manufacture are eagerly sought in every factory. In the larger plants, where a laboratory and testing department exist, it is of course comparatively easy to detect adulterations and impurities, but the smaller factories are often hard pressed to prove where the fault lies. On another page will be found an article on the adulteration of Pará rubber by the introduction of farina flour, in which is described a very simple method of detecting the presence of the adulterant—something that every superintendent may well remember.

FOLLOWING UPON THE DECLINE in the cost of crude rubber, shoe manufacturers have further cause for congratulation in the prospect that we shall have more snow than last winter. Large sales, even at small profits, mean good business.

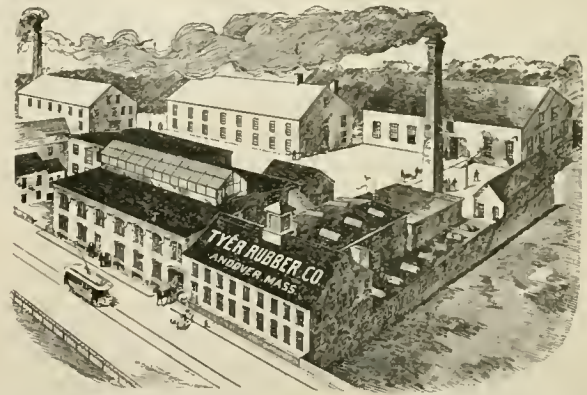
A PICTORIAL PRESENTATION OF BUSINESS GROWTH.

THE three illustrations on this page give an excellent idea of modern rubber factory growth—in this case applied to the plants of the Tyer Rubber Co. at Andover, Massachusetts. It may interest some incidentally to know that the pioneer factory shown in the smallest cut was



that in which the Editor of THE INDIA RUBBER WORLD—then a callow youth of sixteen—took his novitiate in rubber manufacture under the guidance of that ideal gentleman, the late Henry George Tyer. It was in 1856 that Mr. Tyer laid the foundations of the business manufacturing under his own name and laid them well. One now remembers that he was one of the pioneer manufacturers of the then popular "compo" shoe. He was also the inventor of the "Congress arctic," furnishing millions of yards of a special goring to the rubber shoe companies of that day. As the inventor of white zinc rubber it was natural that he should manufacture druggists' sundries, which to-day form so important a part of general rubber manufacture. The second illustration shows the plant as it was when the Tyer Rubber Co. was formed. The officers of

that company were and are Horace H. Tyer, son of the founder, president; John H. Flint, treasurer. President Tyer is a practical rubber man in every sense of the word and keeps in personal touch with the whole business, while Treasurer Flint is accounted one of the best types of New England financiers. Under such guidance the business has grown enormously, as shown in the last illustration, which is not an ideal but a real view. The new factory is in every respect a modern up-to-date plant, equipped with the latest and best machinery and with all labor saving devices. It is of mill construction, the designer and builder being the well known rubber mill architect, Henry J. Preston, of Boston. The factory buildings are of brick, three stories in height in front and four and five stories in the rear, and contain 82,000 square feet of floor space. The power is furnished by a 400 horse power Slater engine, to which is attached a rope drive. The plant is electric lighted and equipped with sprinklers and the latest devices for fire protec-



tion. There are at present 400 hands employed, and the business is growing so rapidly that a larger force and additional buildings will doubtless soon be added. The company, by the way, is a member of the Rubber Manufacturers' Mutual Fire Insurance Co., of Boston.



TESTS OF STRENGTH AND EFFICIENCY OF FIRE HOSE.

DIFFERENT kinds of fire hose require different tests for results. The manufacturer who has knowledge of and reliance upon the materials he uses rarely tests his products, except in the case of cotton hose, when it is done to ascertain the condition of linings, and occasionally linen hose is tested by the maker. Knowing the strength of yarns employed in weaving or knitting fabrics, and having a knowledge of the strength per pick per inch, the manufacturer is aware of the strength in resisting water pressure he should attain. It is only occasionally, therefore, that even the most cautious makers test a piece of completed cotton hose up to bursting pressure to convince themselves of the strength of the hose lining.

When purchasers test fire hose they commonly make the error of subjecting the hose to the full hydraulic pressure for which it may have been guaranteed. As this is practically never less than 400 pounds per square inch these days, and occasionally 500 pounds with closed ends, and as any fire service (outside of the heaviest fire boats) rarely produces to exceed 200 pounds pressure on any line of hose, the disastrous effect to this hose can readily be seen. While the hose may be guaranteed at a minimum strength of 400 pounds, it is wholly un-supposable that, though it may be capable of holding that pressure once, when new, it could ever be as good hose afterward. Consequently such hose, after the extreme test, cannot live as long as hose subjected to a pressure a little in advance of the maximum commonly attained by the department buying. Yet the custom is almost universal—at least in those cases where fire departments test their purchases of hose at all.

The usual method for such tests is by the use of a hand hydraulic pump, or a steam fire engine. As the outer end of the line must be closed, either of these methods is necessarily very severe upon the hose, because of unavoidable "water hammer" produced by the forcing stroke of the pump piston. Under such conditions the writer has seen the pressure-gage hand jump backward and forward, showing approximately a variation of 50 to 70 pounds on the dial. At such times this pumping is often continued until the hand will jump from say 360 to 430 pounds, equal perhaps to a resistance of over 500 pounds steady pressure. Such procedure can only result most unsatisfactorily to both buyer and seller, for, should the hose thus treated survive the injustice, the department using it could never get as good service out of it, and the reputation of the makers would suffer.

In contradistinction to such crude resorts, the largest city fire department in New England had built and installed in 1896 a three plunger belt driven pump, exclusively for testing its fire hose. Those familiar with such mechanism can easily comprehend its value. The hose is fed by gravity pressure from a hydrant in the yard, and the feed water is forced by this splendid pump. The hand on the gage shows the advance of pressure to be as regular and smooth as the running of a chronometer. This pump is invaluable for testing also the strength of hose in service, thus saving much hose which to-day is condemned upon suspicion. The fire department referred to limits all pressure tests of hose in service to 190 pounds. Its test of 325 pounds for new hose—being the maximum—is reasonable and in no way depreciates the hose. But by uneven pumping each additional 5 pounds above that figure is very

trying to the life of the hose, because it results in excessive elongation and weakening by bursting thread or yarns.

Upon the initial test by the fire department buying hose, a great deal of vital importance to seller and buyer depends. It will be borne in mind that in the original test by buyers, the end of the line being tested must be closed, by a cap which is screwed on. In this cap is a pet cock to admit of the outforcing of all air, though sometimes also a hydrant gate valve or a shut off nozzle is used instead. When the hose receives sufficient water to fill out its circumference, the release at the outer end is opened, and held so until all air is excluded, then closed, when the pumping begins, and continues until the testers are satisfied. This is necessarily very much more severe upon hose than any situation of its use in ordinary fire service, from the fact that in fire service, when under pressure, water is either flowing through the outlet, or, when a shut off is used, the strain on the hose is checked by an automatic relief valve on the engine. All steam fire engines built nowadays are supplied with relief valves, and in many places where heavy gravity pressure is used and where engines are not employed at all, a similar relief valve is attached to the outlet of the hydrant. Incidentally it is well to note also that the average fire department will not accept hose whose couplings show any continued leaking after being tightly coupled—when under test pressure.

What is known universally as "fire pressure" is 125 pounds, though, as previously stated, it is a very rare occurrence when pressure in fire service exceeds 200 pounds. The writer has heard a veteran manufacturer of fire hose state that in his opinion a fair way for a fire department buying hose to test it would be to select at random from its purchase one piece from every 1000 feet and subject it to three times the maximum of its ordinary fire pressure. Certainly this would have the tendency to elevate the character of fire hose. The vital part of cotton hose to be considered is the lining. Nearly all makers can produce fabrics strong and durable enough, but damage from stowing in the fire wagon, liability to freezing, and the various other unusual strains make a high grade lining indispensable.

"Mill hose" is tested under somewhat different conditions. This hose is so known because of its almost universal use in mills, factories, hotels, office buildings, and other large buildings, and is made of cotton and linen. The largest quantity of this hose is bought because the conditions of insurance policies require it. The higher grades of it are known as "Underwriters." The first aggregation of Underwriters to get out specifications for the qualities of materials employed in manufacturing, and the results to be shown under test before the hose becomes acceptable by it, was The Associated Factory Mutual Insurance Companies, with headquarters in Boston. On the following page will be found these conditions, for both cotton and linen hose, abridged somewhat from the official publication. These tests are exacted by the above association, and the hose when bought is rarely tested by the purchaser, who relies upon the insurance people, whose risk the worth of the hose becomes, when examined, or perhaps tested, by the inspector.

In June, 1899, at the annual meeting then held of the National Fire Protection Association, specifications were adopted as "Standard for 2-5/8" cotton rubber-lined hose for private mill fire department." This association is composed of various boards, associations, exchanges, and bureaus of leading stock

companies in principal parts of the United States and Canada. As far as these specifications go, they are practically the same as those exacted by the Associated Factory Mutual Insurance Association, whose demands for linen hose are that it shall stand 400 pounds pressure, and that during the first five minutes of the second wetting it shall not leak to exceed 16-7/10 gallons per 100 feet; and during the second five minutes one gallon per 100 feet, while under 400 pounds pressure.

The specifications referred to on the preceding page are as follows:

COTTON RUBBER LINED HOSE.

I. Each piece of hose to have a distinct and conspicuous trade mark, consisting of colored warp threads woven into the fabric. Manufacturer's name and trade name of the hose and year of manufacture to be stenciled at least twice on each length of hose, in black indelible letters 1 inch high.

II. Cotton fabric may be woven or knit, even and firm in texture, of best quality selected long staple yarns, free from defects except such as are incident to the best manufacture. Filling threads must be covered thoroughly by the warp in woven hose, and in knit fabric both warp and filling must be covered by the knitted loop. Fabric to be guaranteed antiseptically treated, and not to mildew under proper treatment. Weight of 100 feet of 2 $\frac{5}{8}$ fabric not to be less than 33 nor more than 40 pounds.

III. Rubber lining to be of the best quality and contain not less than 40 per cent. of pure Pará rubber, and must not contain rubber substitutes, old vulcanized or reclaimed rubber, or any injurious adulterants, and must be uniform in thickness and quality. It must be thoroughly cemented to the fabric with the best cement. Tube to be lap jointed and made up of not less than 3 calendered sheets, in order that if defects occur in any ply they may be remedied by the other two; exclusive of cement, must not be less than .049 inch, and with cement, not less than .072 inch in thickness.

IV. Internal diameter not to be less than 2 $\frac{5}{8}$ inches.

V. Diameter through couplings to be 2 $\frac{3}{8}$ inches; couplings to be of the expansion ring pattern, with long tail part, made of an alloy of copper, tin, and zinc (and lead, if desired)—not less than 82 per cent. copper or 7 per cent. tin, and not more than 7 per cent. zinc or 3 per cent. lead; must weigh not less than 5 pounds and be stamped with manufacturer's name and year of manufacture.

VI. Weight of finished hose without couplings to be not less than 34 pounds, or with couplings 39 pounds, per 50 feet length.

VII. Samples 3 feet long, when lying straight or when curved to a radius of not more than 2 $\frac{1}{4}$ feet, must show average bursting pressure of 500 pounds, though individual samples withstanding 450 pounds may be accepted. Section 3 feet long, with the ends tied together and couplings touching, must show average bursting pressure of 300 pounds at sharp kink in the middle, though 250 pounds may be accepted in individual samples.

VIII. Elongation between 10 and 100 pounds should not exceed $\frac{1}{8}$ of the original length, and between 10 and 300 pounds, $\frac{1}{6}$ of the original length.

IX. Any undue amount of twist is looked upon as showing inferiority in weaving. Hose should show but little tendency to twist at 100 pounds, and up to 300 pounds the twist should not exceed 15 degrees per foot.

X. Increase of diameter, between $\frac{1}{100}$ and $\frac{2}{100}$ inches from 10 to 100 pounds is within reasonable limits.

UNLINED LINEN FIRE HOSE.

I. Each length to be marked with warped threads, as in the case of cotton rubber lined hose.

II. Name of manufacturer, etc., to be stenciled every 15 feet, in letters 1 $\frac{1}{4}$ inches high.

III. Each web of hose to be numbered serially as it comes from the loom, and its number to be stenciled on each 50 foot section. Each manufacturer to maintain an apparatus for testing hose, and to test a sample at least 3 feet long, taken from each web as it comes from the loom.

IV. The maker to guarantee: (1) That hose on delivery shall not burst at a water pressure less than 400 pounds per square inch; hose to be wet under pressure at from 10 to 20 minutes before bursting; hose to be tested the same as cotton rubber lined hose. (2) That after having been wet under a pump or hydrant pressure of 75 pounds and thoroughly dried, that then, on being subjected a second time to a water pressure of 75 pounds, the total leakage during the first minute shall not exceed $\frac{1}{8}$ gallon per foot in length, and that upon this second trial, after the hose has been wet for 5 minutes, the total leakage during the next 5 minutes shall not exceed .01 gallon per foot in length; the water pressure meanwhile being 75 pounds per square inch.

V. The maker to guarantee that the yarn from which the hose is woven has been procured from a responsible manufacturer, whose name is given under a written guaranty that it was spun from first quality linen, and that it has been cleansed by boiling in soda ash solution of a strength obtained by using a weight of soda equal to at least $\frac{1}{10}$ of the weight of the yarn, for at least 3 hours; then properly washed in clean water, and then boiled again, in a similar alkaline solution, for 2 hours more.

MANGABA OR MANGABEIRA RUBBER.

THE mangaba or mangabeira gum is a natural product which contains some of the qualities of elasticity of India-rubber, though looking quite different, on account of being a product which has not undergone the smoking process. Up till now it is prepared through the action of heat alone. The milk is heated in a clay vessel which is afterwards broken in order to take the stuff out. This gives a heavy loss. Perhaps, combining the action of the heat with that of a small amount of certain chemicals, it might be possible to get better results. Either on account of its appearance, or because it is little known, there is scarcely any demand for the mangaba. Yet it is cheap; it can be got in some places along the Tocantins and Araguaya rivers at something like 10 cents a pound. Therefore, even if it cannot answer all the purposes of Pará rubber, there might be reasons for investigating its use either alone or in combination with other matters. Though it is little known and little used, we think this product has some future.

On the Pará side of the Tocantins and Araguaya rivers, between the Itacayuna and the Tapirepe, there is in the *campos* (and covered with lower vegetation) a shrub, the "mangabeira," which gives a milk more or less similar to that of the Pará rubber tree, but which does not coagulate so easily and not at all through the smoking process. The mangabeira is never to be found in the forest; it is only in the *campos*, where the vegetation is not high. It is about 7 or 8 inches in diameter; the average height is 16 feet; it is not very resistant and perishes quickly when overworked. It gives quite enough milk, yet as the stuff has at present no great commercial value, this advantage disappears.

Along the Rio do Somno, which is one of the places of production, 33 pounds are sold at less than 20 milreis [=equal \$4.40, gold, with exchange at 11*d.* per milreis] and in the town of Pará itself the value is seldom double. As the milk is abundant, the production is equally so. A man gets easily 11 pounds per day, but as the price is low, this industry is not so advantageous for the working man. Something like 5 milreis per day is not very much in such a place where a man has to provide his own food. Yet in spite of that, in spite of the great distance to the nearest market towns, and in spite of the uncertainty of the sale, there are already some working people coming from the state of Maranhão and from Bahia. The total production is less than 22,000 pounds (in weight).

EUGENE ACKERMANN,

Pará, Brazil, October 23, 1901.

Engineer.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE rather more than storm in a teacup which lately occurred and has now subsided into quiescence at the works of the Leyland and Birmingham Rubber Co., invites a few words of comment which perhaps come all the better from one who is free from the bias which is at any rate to some degree inseparable from both master and man. The main object of the Union is the maintenance of an equable fixed wage among workers of a certain class, and where this is carried into effect it will be conceded that any increased burden which may be imposed upon the manufacturer is equally borne by his competitors. It must be said that in the years during which the Union has been in existence very little friction has occurred between the officials and the masters, and what there has been has been amicably settled. Membership is by no means universal, there being plenty of abstentions, especially among those who do piece work, those connected with proofing being the chief adherents of the Union. The main fact which has of late caused the Union officials to develop increased activity is the knowledge that certain works situated in country districts have taken advantage of the labor which is continually forsaking the plow for the factory. Agricultural laborers weary of the monotonous conditions of their life, and of the low pay attaching thereto, offer themselves at the factory door at rates of pay considerably below what is usually paid to town workers for the same class of work. There are of course few of us free enough from the taint of buying in the cheapest market to enable us to throw stones at the manufacturer who avails himself of this labor, but although it certainly may seem to be interfering with the sacred rights of liberty so dear to Englishmen, it can hardly be contended that the rubber workers union are wrong in their attitude of protesting against the introduction of such an important lever in the reduction of wages; nor can it be agreeable to the trade as a whole to see that one or two manufacturers have such an advantage in the labor market. That the trade is somewhat at variance on the subject of the Union is clear from a notice exhibited in the lodge of a Manchester works, in which city the headquarters of the Union are situated, to the effect that all hands taken on must be members of the Union, the proprietor being evidently convinced that by this course of action he is furthering and not retarding his own interests. Space does not permit of further reference to this subject, though it contains many points which might be ventilated with advantage.

THE writer of a recent article in the *India Rubber Journal* advocates the abolition of the post of sub-manager in rubber works, and is in favor of there being no intermediate authority between the head manager and the various foremen. From what I have gathered in conversation, this contention does not find very general acceptance, for various reasons, the gist of which may be given here. An important point has connection with the personal equation. Without wishing to disparage the British workman, he has, it must be confessed, in many cases too great an addiction to drink or to laziness, either of which attributes frequently leads him to absent himself on Monday mornings, and generally to be somewhat spasmodic in his attendance at work. It is from this class that foremen are selected, and unless the assistance of a sub-manager was available it would

cause the head manager to go in constant fear of ineffective supervision as to be ready at a moment's notice to take the post of foreman, which would obviously be a waste of money. The British foreman, as a rule, receives but little higher pay than the men under him, and such of these as are doing well at piecework, do not evince any great disposition to take up duties the responsibilities of which are not, as a rule, adequately remunerated. The foreman, moreover, is usually rather too remote in point of education from the manager, to enable them to discuss things together with that freedom from servility which is desirable; he is apt to be too much overawed when ushered into the carpeted office, and to confine himself to monosyllabic utterances, instead of enlarging effectively upon the points of discussion in the way that a man of superior attainments could, or should be able to do. Again, and this is really, it seems to me, the *crux* of the matter, the manager of a large factory, say one employing 500 to 1000 hands, cannot be placed in the same category as one presiding over a tenth of these figures. In the latter case supervision would be possible; in the former case, if it is to be at all adequate, it would be impossible. An important point referred to by one of my informants, was the technical status of the manager. Many of those who hold this responsible position, are certainly not experts in the manufacture, but are more noted for their general commercial abilities, and without the assistance of expert sub-managers, they would often find themselves in a fix. Whether this state of affairs is advisable in the best interests of the trade, is beside the present subject, but it seems important to indicate its existence.

FOLLOWING on their large contract with the Salford corporation for electric cables, this firm have just secured a similar contract in Manchester, the value being £130,000. The Diatrine insulation, the property of this firm, is evidently gaining increased confidence, now that the lapse of time has resulted in no charge of inefficiency being brought against it. This extensive cable laying is having a rather curious effect on the pitch market, this commodity being now quite scarce owing to the increased demand. Considering the depressed state of the markets for other coal tar products, notably benzol and anthracene, the demand for pitch is appreciated by the distillers, but it does not pay to distill tar for pitch alone, and it rather looks as if the uniform procedure of the tar works will have to undergo an alteration. As regards the natural pitch, it is understood that this is largely under the control of the Callender Cable Co., who insulate with a pitch compound called Bittite, and also use pitch for laying the cables in.

ALTHOUGH there is a good deal of grumbling about the slackness of trade, it is notable that this ebullition of feeling is not universal, one works in fact stating that they have never had a better year. Of course there are many factors that go towards the making of a respectable dividend and in a trade which is, if anything, overdone, the fact that some works are kept at it overtime is almost conclusive proof that others are correspondingly slack. The explanation of the optimistic and pessimistic reports would seem then to lie in the success or otherwise of the several firms in attracting the trade that is to be done. Though here a reservation needs to be inserted,

RUBBER
WORKERS
UNION.W. T. GLOVER & CO.,
LIMITED.CONDITION
OF TRADE.

because a works may be exceptionally busy and yet show but a bare profit, on account of the low price at which the orders were taken. Some classes of work are notoriously more profitable than others, and the dividend earned will depend upon the particular class of work or particular orders obtained more than upon the bulk of work done. Despite the buoyant tone of certain manufacturers there can be no doubt that business has fallen off generally this year compared with last year, but then the price of rubber, especially of medium qualities, has also fallen considerably, and even with a considerably reduced turn-over our works ought to be making money this year seeing that the policy of the manufacturers association has been against making any reductions in the selling prices. The advantage which the reduced price of rubber coupled with business aptitude has conferred on certain firms is apparent, and in this connection it may not be invidious to mention the names of The Irwell Rubber Co. and The Gorton Rubber Co., the satisfactory dividend of 7½ per cent. having been declared by the latter as the result of the second year's working, a considerable improvement on the last report.

AT this works, where Dr. Carl Otto Weber is located, a new laboratory has been fitted up. Replete with every convenience for analysis and research, it will probably be the best of its kind to be found in a rubber works at the present time. I understand, by the way, that Dr. Weber will shortly publish a volume dealing with the chemical composition and analysis of India-rubber and its compounds, and this should prove an interesting and valuable contribution to the scanty literature of our trade. At present the information which the forthcoming volume will contain is scattered about in various journals and proceedings of societies and is therefore not at all easy of reference.

I NOTE that a firm now putting a new tire on the market guarantee it to contain 94 per cent. of pure Pará rubber. Without wishing to comment on the mixing, I cannot help thinking what a commotion would arise in court if the *bona fides* of the firm happened to be impugned. I do not suggest for one moment that the goods are not turned out according to guarantee; I only recognize the great difficulty there would be in getting outside corroboration in the inefficient state of our chemical analysis with regard to the point. I may say that with some firms the term Pará sorts is used for Pará, thus bringing Negrohead into the fold.

FROM what I hear there does not seem much likelihood of the suggested action of the shareholders against the promoters of the company coming to maturity, and it is probable that despite the reconstruction under a very much reduced capital the business will fizzle out. There seems to be somewhat of an impression abroad that Messrs. Moseley could be proceeded against, but they were not the promoters, their connection with the concern being of a different nature, and what was done was by the deceased Mr. Joseph Moseley, whose liabilities, if any, in the matter have not passed to the present members of the firm. Of course the great mistakes about Pegamoid were the non-validity of the patent, the over-capitalization of the company, and the want of sound business acumen in the management. There is no doubt much truth in the saying attributed to Sir William Siemens that the most important part of a patent is the personality of those who are to work it, and it is more than probable that if Messrs. Moseley or some equally well-known house had worked Pegamoid themselves it would have been made a success. The lax state of our patent laws is exemplified in this case, where the patent was proved non-valid at the first trial, and there can be no doubt that the agitation which is going on in the country

on the subject presages an alteration in the law to the extent of an examination into novelty.

I DON'T know how much business is done in America in this line, but in English towns, where granite setts are largely used in street paving, the frog pad and, to a greater extent, certain forms of the pneumatic horseshoe, are gaining increased favor. The pneumatic form is said to be considerably better for the horse's foot from a hygienic point of view than is the solid pad. The latter are generally used by equestrians who have to use the streets, while the pneumatic shoe is generally adopted for carriage work.

A COUNTY analyst waxed eloquent the other day on the inferior character of American gas tubing. He got a quantity sent him, he said, from the States, and finds that it is quite stiff and easily breakable. I told him that he had unfortunately got a low quality such as is also made in England and Germany, and which is very little use at all, if indeed not a source of actual danger from its liability to break. I cannot believe that no good quality tubing is made in the States, and I impressed upon him the importance of asking for the best on the occasion of his next order. In many varieties of rubber goods bad quality is no danger, but in the case of rubber tubing, which is often used in households for connecting stoves with gas brackets, tubing which is liable to break at a bend and allow gas to escape into the room, is most decidedly dangerous, and I know of at least one case where its use has been severely criticised officially.

MR. CLAMPETT, who, in the departure of Mr. H. H. Royle from Messrs. Macintosh's works two years ago, has filled the latter's place as head of the waterproof department, has now vacated that position. Mr. Clampett's service with Messrs. Macintosh dates back many years, and he has also been in the employ of Mr. Frankenburg. —Mr. Openshaw, formerly of Messrs. Macintosh, and afterwards with Messrs. Byrne, at Birmingham, now holds a position at the Hyde Imperial Rubber Co.'s works. —Mr. Rumbold has given up his post at the works of the Gorton Rubber Co. —Mr. Lister Smith, for many years representative of Messrs. Macintosh & Co., both in Manchester and Birmingham, has relinquished that post.

SOME WANTS OF THE RUBBER TRADE.

[204] FROM Scotland: "We would be very much obliged if you could let us have the names of makers of rubber sole rounding machines."

[205] From San Francisco: "Would you oblige me by sending the price list of several constructors of rollers for cleaning India-rubber?"

[206] From Baltimore: "I am desirous of obtaining full information on the subject of the most improved belt stretching machinery."

[207] "Who makes spreader knives, for proofing work?"

[208] We have an inquiry for addresses of parties likely to take an interest in starting a rubber shoe factory in Belgium.

[209] From a rubber factory we have a letter asking where the rubber solvent called "Vulcolaine" can be obtained.

[210] "Will you tell me the methods for coloring raw rubber compounds, in black, brown, and red?"

[211] From Pará, Brazil, we have received a request for the addresses of parties prepared to furnish outfits for making rubber stamps.

[212] A request comes for "Brazilian gum," for tire repairs.

OUR RECORD OF RUBBER PLANTING.

“PARA RUBBER” IN THE STRAITS SETTLEMENTS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: A few weeks ago I posted you a copy of the annual report of the botanic gardens in this colony, containing, among other rubber notes, the result obtained by tapping a single Pará rubber tree (*Hevea Brasiliensis*) growing in the Waterfall botanic garden, Penang. The result of four tappings within two years, as shown in that report, is 12½ pounds of dry, marketable rubber. Within the past month the same tree has been again tapped, and yielded over 2 pounds more, so that this one tree has given 14½ pounds, without being excessively tapped. How long it will continue to yield at this rate is a matter of conjecture, but so far as can at present be seen there has been no apparent injury to the tree. I am sending you by post a sample of the rubber and shall esteem it a favor if you will kindly submit it to some expert engaged in the manufacture of rubber goods for an opinion as to its quality and value.

In a few years' time this will be a large article of export from this region, and also what is known here as “gutta rambong” (*Ficus elastica*). Many large plantations here and in the adjoining Federated Malay States were commenced about four years ago, and tapping on a large scale is anticipated by the time the trees are eight years old. New plantations are being formed as fast as seeds are obtainable, but the supply is not equal to the demand. The tree from which the rubber I am sending you was taken is sixteen years old, but in good soil, such as most of the planters are using, the trees will be quite as large in eight or ten years. Ours is growing on a dry gravelly bank, conditions quite the opposite of those under which it naturally grows, so far as one can judge from the reports of those who have seen it growing in Brazil. Here it will grow anywhere, though of course not equally well in all places, and there is no doubt that in the future this country will have to be reckoned with as regards rubber. As a field for investment in this particular cultivation it would be hard to beat. Land is abundant and cheap and roads, railways and rivers afford easy access to all parts of the Malay peninsula. C. CURTIS, F. L. S.

Superintendent of Forests Section Botanic Gardens.

Penang, Straits Settlements, September 24, 1901.

COMMENT BY THE EDITOR.

THE tree from which was obtained the sample of rubber referred to above was stated, in the annual report of the botanic gardens for 1900, to be 55 feet high, with a circumference, at 3 feet from the ground, of 66 inches. The record of yield of this tree, as stated in the annual reports, is as follows, the tree having been tapped for 14 alternate days in each of the seasons mentioned:

	Lbs.	Oz.
November-December, 1898.	3	0
April-May, 1899.	2	8
November-December, 1899.	3	4
October-November, 1900.	3	12
August-September, 1901.	2	0
Total.	14	8

From the same reports it is to be inferred that the rubber produced has been smoked with coconut husks after first having been allowed to coagulate and then rolled into thin sheets. Where the rubber milk has happened to contain rainwater, alum or spirits of wine has been used to hasten coagulation. The method of coagulating rubber on the Amazon is by submitting the fresh latex to the hot smoke of palm nuts, quite a

different method from that employed by our Penang correspondent.

The Penang rubber has been examined quite carefully, and is worth about 60 cents a pound, with fine Pará at 80 cents a pound. In fact it does not resemble fine Pará very strongly, but is much more like Pernambuco. The rubber is much softer than fine Pará, or even than coarse Pará, and has nowhere near as strong fiber. In fact, it is quite short. It could not be used, for example, in thread, elastic bands, or any fine pure gum goods. In solution it loses its tenacity very quickly, so that it would not do for high grade cements. Another thing about it is that it softens with age, whereas the Pará rubbers grow hard and oxidize. We think the reasons for these differences are two: one being found in the manner of coagulation, which does not seem equal to the smoking process; and the other being due to the undoubted change wrought upon the tree by a different climate from that in which the tree naturally flourishes. It is to be understood, of course, that the rubber is valuable, and will find a ready market at a good price, but it is not the equal of either fine or coarse Pará. We think this is another proof that rubber will be cultivated most successfully in the regions where it grows wild.

KAMERUN (GERMAN WEST AFRICA).

THE Moliwe Pflanzungs-Gesellschaft, of Hamburg, Germany, at the end of their second business year (July 1, 1900-June 30, 1901), reported that 42 acres of their estate at Moliwe in this colony had been planted in rubber, 32½ acres being devoted to *Kickxia elastica*, the tree which yields the Lagos rubber. The number of trees was 3960, which gave 300 to the hectare, or 121 to the acre. Dr. Paul Preuss, director of the botanical gardens at Victoria (Kamerun), writing to the editor of *Der Tropenpflanzer*, makes an unfavorable report on the growth of these plants, while the *Castilloa elastica* has done well. The late Herr Stammler, head planter of the Moliwe company, reported favorably on the *Castilloa elastica*, and the company, on the advice of Dr. Otto Warburg, of Berlin, and with the aid of Herr Th. F. Koschny, of San Carlos, Costa Rica, obtained from the latter country this year 400,000 seeds of the *Castilloa*. Although the larger part of these seeds, by reason of the long voyage, were found to be spoiled on reaching Hamburg, it was hoped that at least 100,000 *Castilloa* plants could be grown for Kamerun from the lot. The Moliwe company are experimenting with various other rubber species.—Of the rubber under cultivation in the gardens at Victoria, Director Preuss reports that the seedlings of *Kickxia elastica*, from seeds planted in November, 1898, had, in two years and a half, reached a height of 3 meters, and were flowering. Besides, the bark was found to contain latex. The *Ficus Vogelii*, another African tree under cultivation, yields rubber liberally and of good quality. *Sapium utile* and *Hevea Brasiliensis* (Pará rubber) are each represented in the gardens by a few good specimens, the young trees of the latter species having begun to bear seeds.

MEXICAN MUTUAL PLANTERS' CO. (CHICAGO.)

JAMES MAUNDER, in charge of this company's plantation at La Junta, in Vera Cruz, writes to *Modern Mexico* that 330,000 rubber plants have been set out there this year, in holes 20 inches deep, made with posthole diggers. One man could plant 350 trees. A neighbor has been planting in holes made with a stake, and Mr. Maunder is waiting with interest for the

results, since the saving by this method would be enormous. Four nurseries have been made this year, and nearly three tons of rubber seed planted. Four kinds of nurseries were made. One of 15 acres, on the top of a hill, was cleared and the fallen timber burned; all creepers were cleared off and burned; a stump puller was used to remove all the stumps that could be raised without digging around the roots; the stumps were burned, and then the ground was leveled and rows about an inch deep opened with rakes, in which the seeds were placed about one inch apart. Fully 90 per cent. germinated. For the second nursery, of 5 acres, the timber was burned off, but the other work of clearing mentioned above was omitted, though the method of planting the seeds was the same. The appearance of the nursery is less neat, but the expense has been only one-third as much per acre. The plants, however, look just as well. Ground for the third nursery was prepared by deep plowing and spading, raking off the roots, and pulverizing the soil. It was then laid out in beds, leaving walks between to permit weeding and watering the young plants without walking over them. Rows 12 inches apart and an inch deep were opened with a rake, and the seeds planted as above. The ground being dug more deeply in this case, it is expected that the tap roots will be longer, and the result will be compared of setting out nursery plants with tap roots of different lengths. No details are given in regard to nursery No. 4. The planting of 330,000 rubber seedlings occupied 28 days. Mr. Maunder is an experienced tropical planter, having had charge of a coffee estate in Ceylon.

THE TEHUANTEPEC RUBBER CULTURE CO.

[Plantation "Rubio," Coatzacoalcos, state of Vera Cruz, Mexico. Offices: No. 35 Nassau Street, New York.]

THE company's second quarterly report to investors, dated November 15, 1901, is devoted to the continued success in the sale of the company's bonds, which is now almost concluded. Meanwhile the work of clearing and planting has gone forward at a satisfactory rate. The circular says: "Our next report will dwell chiefly on progress at the plantation, covering full details of the work there, and will be issued from Plantacion Rubio by Mr. Bennett [the president] personally." The report is accompanied by a copy of a letter from Alfred N. Litch, secretary of the Leominster Worsted Co. (Leominster, Mass.) who, in connection with the president of that company, has \$10,000 invested in the Tehuantepec enterprise. Mr. Litch spent the month of August on the isthmus of Tehuantepec, and writes encouragingly of what he observed there with regard to rubber planting and kindred interests.

UBERO PLANTATION CO. OF BOSTON.

[Plantation near Ubero, state of Oaxaca, Mexico. Offices: No. 89 State street, Boston, Massachusetts.]

AT a meeting of the directors on October 29, it was voted that a dividend of 10 per cent. be declared, payable as follows: 6 per cent. on December 31, 1901, and 4 per cent. on April 30, 1902. In computing dividends, all instalments on regular monthly payments paid previous to the 15th of each month, to be considered as having been paid on the first of the month. —The directors are: Arthur W. Stedman, Frederick C. Hood, E. H. Nebeker, Thomas Moran, William D. Owen, W. I. Overstreet, Victor E. Seiter.

MEXICAN GULF AGRICULTURAL CO. (KANSAS CITY.)

WHILE this company was formed for the purpose of planting coffee and has devoted its energies mainly to this industry, it deserves a place in any record of rubber planting in Mexico for the reason that its experiments with rubber have been the means of largely attracting attention to the cultivation of the

latter. The success of the Mexican Gulf company is indicated to some extent by the fact that a gold medal was awarded at the Pan American Exposition for the coffee grown on its "Dos Rios" plantation.

OAXACA COFFEE CULTURE CO. (ST. LOUIS.)

THIS company's "San Luis" plantation, on the isthmus of Tehuantepec, is reported to have under cultivation 450,000 coffee and 200,000 India-rubber trees, beside various fruits. The coffee trees are three years old, and some of them have yielded a crop this season.

CHIAPAS RUBBER PLANTATION AND INVESTMENT CO.

MR. L. H. BONESTELL, of San Francisco, California, and president of this company, was a recent visitor to the offices of THE INDIA RUBBER WORLD. He reported that the managing director of the company, the Rev. J. W. Ellsworth, continued to send favorable progress reports from the plantation in Mexico. Mr Bonestell thought that about 8000 acres had been cleared for rubber—only enough for the forest growth being removed to make room for the rubber. About 3000 acres had been planted in rubber, and planting was in constant progress, so that it was expected that the remaining 5000 acres would be planted by the end of this year. These figures would indicate a marked degree of activity on the part of the Rev. J. W. Ellsworth since the appearance of the last previous reports.

INDIA-RUBBER IN CUBA.

FREDRICO M. CASTRO writes from Havana to THE INDIA RUBBER WORLD that some rubber trees are still standing which were planted about 1830 by Ramón de la Sagra in the botanical gardens which stood where the railway station at Villanueva is now situated. José Antonio del Castillo, a grandson of Sagra, has on his plantation "El Algibe" rubber trees planted by his grandfather. Señor Castro asserts that these trees, and also others within his knowledge on Cuban plantations, are the *Castilloa elastica*, with which species he became familiar while manager on "El Brinco" estate of Ramos Brothers, in Chicoaloque, canton of Paplanta, state of Vera Cruz, Mexico. Some of these trees in Cuba, Señor Castro writes, are of a size and vigor he has never seen equalled "in the hot zones of Mexico." In October last he sent samples of rubber from planted trees growing in Cuba to Flint, Eddy and American Trading Co. (New York), from whom he received a favorable report as to quality. Señor Castro strongly advises the planting of rubber in Cuba, as a certain source of profit, and has contributed his views on this subject to the *Revista de Agricultura*, of Havana. He states, by the way, that many young seedlings of *Castilloa elastica* can be obtained from the vicinity of the large trees above referred to. His address is Apodaca 5 (altos), Havana.

RUBBER PLANTING IN BURMA.

THE first private enterprise in rubber planting in Burma was commenced in 1899 by W. S. Todd, of Amherst, who has now 60 acres under cultivation, chiefly of *Hevea Brasiliensis*, but has also some *Castilloa elastica*, *Manihot Glaziovii*, and *Fun-tumia elastica*. His conclusions, communicated to THE INDIA RUBBER WORLD, are that the growth of the *Hevea* is equal to the Ceylon records, but not so good as the Straits Settlements.

RUBBER PLANTING COMPANY PUBLICATIONS.

TABASCO Plantation Co., Minneapolis, Minnesota—(1) San Miguel Plantation Views, Bulletin No. 1. 3 pp. (2) A Fortune in Rubber. 40 pp. + map.

Mexican Mutual Planters' Co., Chicago.—*The La Junta Planter*, Nos. 5, 6. (February and April, 1901.) 28 pp. each.

THE AMERICAN PACIFIC CABLE.

AN order has been placed with the India Rubber, Gutta Percha, and Telegraph Works Co., Limited, of Silvertown, England, for the first section of the trans-Pacific cable to be laid and maintained by the Commercial Pacific Cable Co., of New York, the incorporation of which was reported in THE INDIA RUBBER WORLD of October 1 [page 24]. This section will reach from San Francisco to some central point in the Hawaiian islands, probably at Honolulu—a distance of about 2200 miles—and it is expected to be completed and ready for the transmission of messages about January 1, 1903. The cost of this section, it is understood, will be about \$3,000,000. The award was made after a comparison of tenders from the three leading English cable construction companies.

It was announced in New York on November 19 that the Silvertown company would begin work on the new cable within a week, with the idea of finishing it by July 1 next. The cable will then be loaded on board ship, and it will be three months more before it reaches San Francisco, the starting point of its journey across the Pacific. The actual work of laying the cable will consume about seventeen days, and with additional time for establishing the stations and allowing for possible mishaps, it will be ready for service in two months after its arrival.

George G. Ward, first vice president of the Commercial Cable Co., and one of the incorporators of the new company, when asked why the contract for the Pacific cable had not been awarded to an American manufacturer, replied as follows, according to the New York *Herald*:

"The Commercial Pacific Cable Co. would have been very happy to have given an American company its contracts, but there is no company in the United States that could, we felt, perform the work. They have not the machinery, and we could not afford to have the work of laying the cable take the form of an experiment. The Silvertown company has been established for over forty years, and has laid most of the deep ocean cables throughout the world, so that it understands perfectly just how the work should be accomplished.

"The company has assured us that they will complete the cable and have it here in seven months. Just as soon as this section is complete and out of the way, we shall commence work on another section that will connect the Hawaiian islands with the Philippines. Our station there will probably be on the island of Luzon and near or in Manila. We have not decided on that point yet, nor have we fixed our schedule of rates, but I may say, in speaking of rates, that we shall reduce them to a reasonable figure. We expect to have the work completed in about two or three years. The estimated cost of the undertaking is about \$15,000,000, but we have capitalized our company at only \$3,000,000, because we prefer to increase our capitalization as we proceed rather than use such a large figure at the beginning."

Mr. Ward said it was expected that the new cable would allow of the transmission of messages in nearly four hours' less time than required at present. He commended Mr. Mackay's enterprise in assuming the responsibility, and said he believed he was deserving of much credit. Reference is made here to John W. Mackay, president both of the Commercial Cable Co. and of the new Commercial Pacific Cable Co.

The Commercial Pacific Cable Co. was incorporated under the laws of New York on September 3, last with \$100,000 capital. On November 7 a certificate was filed with the secretary of state that the capital stock would be increased to \$3,000,000.

The question has been discussed at Washington, whether a

private company would have the right to land a cable at points on American territory without the consent of the government. The United States attorney general, Mr. Knox, is reported to have advised President Roosevelt that no reason exists for obtaining the consent of the government as to other points, but there is an unsettled question in regard to the claim of an English cable company, under an old Spanish grant, to have exclusive rights for cable landings in the Philippines. Meanwhile opposition to the new company has developed, prompted in part probably by the rival interests of the Western Union Telegraph Co. There is a movement to induce the government to construct a Pacific cable, to the exclusion of any private company.

President Roosevelt has not as yet expressed any opinions in regard to the cable matter. It is reported that Representative Sherman, of New York state, will offer a bill at Congress at this session authorizing the postmaster general to contract with a corporation or with individuals for the construction of a Pacific cable, but he is committed to no particular undertaking, but he prefers that the government shall not build and control a cable.

The Chamber of Commerce of New York, on November 6, adopted a resolution reciting the necessity for the establishment of an American trans-Pacific cable laid and maintained by private enterprise, and the fact that application to lay such a cable had been made by a responsible American company.

* * *

The Chamber of Commerce of Manila, on November 15, cabled to President Roosevelt urging that the Pacific cable be laid and saying that one result would be an immense increase of the rubber industry of the Philippines, estimated at \$15,000,000, and also economy and the facilitation of business.

IMPORTS OF RUBBER SCRAP.

THE figures which follow, showing the quantity and invoice value of imports of rubber scrap at New York for the last twelve months, and also for the corresponding period, November, 1899, to October, 1900, have been obtained from the customs officials. The second column under each year, showing the average import value per pound, is based upon the custom house figures:

MONTHS.	1899-1900.		1900-1901.	
	Pounds.	Av. Value.	Pounds.	Av. Value.
November.....	1,077,613	6.12 cts.	818,124	6.10 cts.
December.....	1,111,080	7.97 "	1,111,949	7.52 "
January.....	1,404,689	7.03 "	880,902	7.13 "
February.....	986,649	7.78 "	341,361	7.01 "
March.....	1,331,205	5.41 "	764,322	5.88 "
April.....	878,478	6.90 "	279,755	8.41 "
May.....	918,536	5.90 "	717,469	6.48 "
June.....	1,240,305	6.14 "	904,835	5.45 "
July.....	991,279	6.20 "	2,049,166	6.31 "
August.....	1,392,546	6.25 "	1,846,283	7.02 "
September.....	1,626,512	6.70 "	949,757	6.75 "
October.....	1,469,928	6.18 "	1,303,732	5.43 "

Total, 12 months 14,428,820 6.57 cts. 11,967,656 6.46 cts.

While the imports were lighter, during the earlier months of the current year than in the same period of 1900, it will be seen that the figures for the last six months exceed any previous record.

NEW INSULATING MATERIAL.—The United States consul at Leipsic reports that a recently patented insulating material is made by taking pulverized casein and mixing it with vegetable oils. The mixture, to which India-rubber, resin, or coloring matter may be added, is pressed into forms and dried, or vulcanized by the addition of sulphur.

ADULTERATION OF FINE PARA RUBBER.

[FROM THE "GUMMI-ZEITUNG," DRESDEN.]

ADULTERATION of rubber has always been practiced, especially of the African sorts, and in isolated instances also of those coming from Pará, but these were generally an exception. But it seems that the adulteration of Pará rubber during the past season has assumed such proportions that it is to the utmost interest of the importers, as well as the manufacturers, to call public attention to this fact, in order to make future adulterations impossible. It is self-evident that these adulterations are perpetrated at the place of production—*i. e.*, along the Amazon and its tributaries—and the importers can exert their influence only in so far as to call the attention of their correspondents to this evil and urge them to a sharp inspection before accepting the goods. No doubt this is the rule with most firms. But there are some firms who consider adulterations up to 10 per cent. as nothing unusual, and take it for granted that the product just now is of no better quality, and that the manufacturers have to take it as it comes. The experience which one of our largest factories had with importers, and which is given below, will show the true condition of affairs.

The adulterations consist in some instances in the mixing of medium with fine Pará, and in others in the admixture of farina flour, and this last named one particularly causes the manufacturers the greatest trouble. It seems peculiar that these adulterations occur almost exclusively in the so called soft or brown cure (Islands) rubber, and therefore in the rubber district of the lower Amazon, embracing the islands in that river near the city of Pará, while the so called hard fine cure (Upriver), coming from the upper part of the Amazon and its tributaries, is free from this adulteration. It seems that the rubber gatherers living remote from the large rubber center, Pará, are as yet not sufficiently cultivated to practice the mixing of farina, needed by them for food, with rubber milk and turning it into Caoutchouc.

The firm already mentioned had sufficient proof of a 10 per cent. adulteration with this flour, and so informed the house from which the rubber was obtained and placed it at their disposal. But, strange to say, this firm, an English house, demanded that the rubber be returned to Liverpool for inspection. It is the custom for sales of Pará rubber to be made on the condition "f. o. b. Liverpool," but to expect that a quantity of rubber, which has been declared as adulterated by experts, should be returned to Liverpool for inspection, seems to be rather strong. The factory refused, and the matter was arranged amicably. How much dependence can be placed on such an inspection in Liverpool is shown by what follows:

This same factory bought a parcel of 10 tons soft brown cure, the selling firm promising to have this lot undergo specially careful inspection and selection. The goods were accompanied by the certificate of a Liverpool broker, which read as follows:

We hereby certify that . . . cases soft cure Fine Pará rubber, shipped by Messrs. . . . per to Hamburg, were duly weighed and tared in the presence of our man. . . . , and carefully inspected by him, and are of fair usual quality.

According to this certificate the Liverpool broker had sent a workman to "carefully" inspect the goods. How carefully this inspection had been made is shown by the fact that, on an inspection being made in the factory, exactly 10 per cent. of flour-adulterated rubber was found. The man had only looked at the goods superficially and had not even deemed it worth the trouble to cut the pieces in one of the cases; otherwise the adulteration could not have escaped him.

These adulterations with flour are at times so great that, on cutting through the pieces, the flour can be seen and often falls out. Such pieces, owing to their high specific gravity—given it by the flour—sink in water, and even if they float it is not positive proof of their purity, much ingenuity to disguise the adulterations being resorted to. Sometimes only the inner layers contain flour, while the outer ones, to the thickness of from 5 to 10 millimeters, consist of fine Pará. The worst feature of this flour adulteration is that washing does not remove it, and it remains in the washed rubber. A simple and absolutely sure reaction on flour is the reaction of a solution of iodine, which immediately gives a deep blue color to bodies containing starch. If a solution of iodine is applied with a brush to a piece of rubber containing flour, the portion containing it will immediately turn blue, while the others will retain their usual light color. Washed rubber, containing flour, will, on being tested with iodine solution, turn a deep blue; this proves that the washing process does not remove all the flour.

As mentioned above, the importers are not to blame for this adulteration. Their fault lies in the fact that the houses across the sea which are represented by them do not exercise sufficient care, and it seems strange that some firms pronounce such rubber adulterated with flour "fair average quality." Happily, these houses are the exception. Another large English house, to which the firm had sent samples and *asked for advice*, wrote as follows:

It happens off and on that a single piece of *entre fine* (medium), or one that has been adulterated with farina flour, escapes detection, but we must admit that an admixture of such pieces, and of the percentage you mention, has never been experienced by us in *bona fide* imports. We are well acquainted with the quality in question, receiving it regularly from Pará and from Manáos, where our houses separate it, and here of course it is sold at its value, according to the amount of adulteration. The standpoint assumed by your purveyor seems, in our opinion, to be wrong in every respect; with us no question would arise in the market, as to whether a parcel, adulterated to any great extent, with such rubber, was within the scope of contract, and the buyer certainly has the privilege to refuse such goods. The action of the broker who furnished your purveyor with the certificate is beyond our comprehension. If the parcel shipped to you consisted of "original import," the shippers on the Amazon must have been extraordinarily careless. Of course it is outside of our province to say whether the rubber reached you in the same condition in which it was received here, or if something "queer" happened to it in Liverpool.

It would certainly be of interest to know if such adulterations are experienced by others, and we beg those manufacturers who have met with like conditions to express themselves on this subject.

THE OFFICE OF "LATEX."

H W. BENNETT, president of the Tehuantepec Rubber Culture Co., who has spent many years in Mexico and is familiar with its products, brings forward an interesting theory regarding the office of the *latex* in tropical trees and vines. It is of course well understood that the *latex* or milk from which rubber is produced is in no sense a sap. As far as is known, it does not feed the tree in any way, and its presence or absence has nothing whatever to do with the nurture or growth of it. Mr. Bennett's theory is that, tropical vegetation is so exposed to the attacks of myriads of insects that nature has given to it the protection of the *latex*, which appears to be unpalatable to such insect devourers. The theory is a plausible one, as almost every sort of tropical tree, particularly those having quick growth and soft wood, have some such milk, entirely distinct from the sap.

THE NEW ENGLAND RUBBER CLUB'S TROPICAL SYMPOSIUM.

ON Thursday evening, November 21, the Exchange Club, in Boston, from coat room to banquet hall, was taken possession of by the New England Rubber Club and its guests, the occasion being the regular Fall dinner, this time a "Tropical Symposium." The banqueters began to gather at 6 o'clock for an informal social held in the commodious smoking room, and lasting for about half an hour. Governor Bourn, president of the Club, then called the assembly to order, and held a brief special meeting to consider an amendment of the constitution. This amendment, which was adopted by unanimous vote, creates an associate membership with no initiation fees, but with annual dues of \$5, this membership consisting of those whose business or professional interests connect them with the rubber trade, also rubber manufacturers residing outside of New England. No other business being before the meeting, all present made their way to the dining hall, which was most beautifully decorated with tropical plants and flowers, the tables being arranged in the form of a great horseshoe, opposite the open end of which, in an alcove screened by tropical foliage, a band furnished music during the evening. The dinner was altogether the best that the club has enjoyed.

MENU.

	Cotuit Oysters.	
	Hors d'Œuvres.	
Celery.	Olives.	Salted Almonds.
	Soups.	
	Potage, Monte Cristo.	
	Consommé Perle.	
	Fish.	
Cucumbers.	Cutlets of Smelts, Joinville.	Potatoes.
	Releve.	
	Saddle of Lamb, à la Conde.	
Cauliflower, au gratin.	Entrée.	Anna Potatoes.
	Sweetbreads, en caisse, Matilde.	
	<i>Punch—à la Favorite.</i>	
	Game.	
	Roasted Quail, au cresson.	
Salad.		Pomme Paille.
	Dessert.	
	Fromage Glace, aux Fruits.	
	Cakes.	
Fruit.	Cheese.	Coffee.

After the coffee and cigars, President Bourn called the feasters to order, and then made way for the Editor of THE INDIA RUBBER WORLD who, in a brief speech, presented a beautiful hard rubber gavel, made of a blend of different kinds of rubber—Pará, Central, Congo, Assam, Madagascar, Java, and Borneo—all of these names being graven on the gavel. At the suggestion of the speaker, a former substitute for the gavel, a policeman's club made of rubber, was presented to the chairman of the committee on Rubber Stealing. President Bourn accepted the gift in the name of the Club.

The president then called the attention of the members to a letter from Mrs. Charles L. Johnson, acknowledging the receipt of the resolutions of condolence which the Club had sent on learning of the death of her husband.

Governor Bourn next, in a very happy vein, reviewed briefly the work that Prof. George Lincoln Goodale had done in connection with Harvard University Museum, and introduced him as the first speaker of the evening. Prof. Goodale talked inter-

estingly on lactiferous plants and trees of the tropics, his remarks being listened to with the strictest attention, and his excellent delivery and wonderfully easy manner impressing him upon all as a delightful speaker and one thoroughly at home with his subject.

The toastmaster then introduced Prof. O. F. Cook, of the bureau of plant industry, United States Department of Agriculture. As the Club had already been advised, the Hon. James Wilson, the head of the department, was unable to be there, but had sent Prof. Cook as his direct representative, and the president of the Club thus introduced him. Prof. Cook reviewed briefly our new tropical possessions from the department standpoint. He then, by request, spoke briefly of rubber planting, particularly with regard to Porto Rico and the Philippines. He was not altogether in favor of its introduction into Porto Rico, for the reason that the land seemed to be needed for agricultural purposes, upon which the large population there depended. In the Philippines, he said that so far the department had hardly had time or money to go as far as they desired in solving this problem.

The next speaker, Mr. Wilfred A. Joubert, was introduced as the one man who had been further into the jungles of Surinam in charge of Balata gatherers than any other living white man. Mr. Joubert briefly reviewed the condition of the country and told how Balata was gathered, and then in a humorous manner sketched the many difficulties that were met by one who penetrated these tropical wilds. In the course of his remarks he told several snake stories which were so thrilling and deliciously funny that they were greeted by bursts of applause and demands for more.

The next name on the program was that of Hon. William D. Owen, ex-secretary of state of Indiana, and ex congressman from that state, who was to speak on American tropical planting in Mexico. Mr. Owen, however, being absent, Mr. Bourn called upon Arthur D. Little, a well known chemist of Boston, who has spent much time upon the chemistry of India-rubber, for a brief impromptu address. Mr. Little spoke most interestingly on the difference between colloids, to which India-rubber belongs, as against crystalloids, to which substances like salt belong.

During the dinner, the toastmaster had discovered the presence of Mr. T. E. Stutson, who was there as the guest of Treasurer Whitmore. Mr. Stutson at a former dinner made a brilliant record as a teller of stories. The toastmaster therefore suggested that the gentlemen present would be very glad to hear from him and he at once responded in his best vein. The anecdotes that he related were certainly equal to after dinner stories by Dr. Depew, Mr. Choate, or Mark Twain, and the audience greeted them with gusts of laughter. Indeed they were so delighted with Mr. Stutson's stories that when he seated himself they demanded more, whereupon he gave them another round equal to the first.

The toastmaster then made a formal presentation of the rubber policeman's club to Mr. F. C. Hood, chairman of the committee on Rubber Stealing, and the gathering dispersed.

NOTES OF THE DINNER.

THE members of the New England Rubber Club certainly owe a debt of gratitude to Prof. Goodale, who, although suffering from a severe cold and against the advice of his physician, refused to disappoint them by being absent.

=The beautiful hard rubber gavel which the secretary of the club presented, was made by the Joseph Stokes Rubber Co., one of the latest concerns to enter the field of hard rubber manufacture.

=Chairman W. J. Kelly, of the dinner committee, and indeed the whole committee, are to be complimented upon the excellent menu that the banqueters discussed, altogether the best yet.

=Mr. George P. Whitmore, who is on the dinner committee and also the treasurer of the club, had the floral decorations in charge, and received many compliments on their excellence and appropriateness.

=As Mr. W. H. Gleason, assistant secretary of the club, was

to celebrate his silver wedding anniversary the next day, some very beautiful flowers that adorned the tables were sent him, with the cordial congratulations of the executive committee.

=Mr. William E. Barker, of the entertainment committee, who had the music directly in charge, made a most excellent selection, and proved, as has long been known to his intimates, that he is a lover of good music.

=Mr. Wu Ting-fang, envoy extraordinary and minister plenipotentiary from the Chinese Empire to the United States, a most delightful after dinner speaker, had planned to be present to speak on "Chinese Laborers in the Tropics," but, finding that his official duties would engross him during the whole of November, was unable to arrange to do so.

RUBBER SHOES AND THE GERMAN TARIFF.

IN connection with the proposals for a radical revision of the German import duties, to meet the views of the protectionist sentiment in that country, the *Handelskammer* (Chamber of Commerce) of Hamburg has made a study of existing trade conditions and prepared a report for the consideration of the government. The paragraphs which follow, in relation to rubber goods and particularly to rubber footwear, are translated from this report as found in the *Gummi-Zeitung*. It will be seen that the Hamburg chamber opposes an increase in the import duties on the goods referred to:

"An important item is No. 576—rubber shoes. It is proposed to raise the tariff on unvarnished shoes from 40 to 90 marks, per double hundred weight (220 pounds) and on varnished shoes from 60 to 100 marks. The board of trade heard the statements of eight rubber goods manufacturers, of whom six are not making shoes, and consequently have no intimate knowledge pertaining to them. The representative of the Harburg factory advocated a tariff, on varnished rubber shoes, of 120 marks, while the representative of the Leipzig factory, who are not making shoes themselves, but are carrying the product of the Russian-American India-Rubber Co., of St. Petersburg, to supply their customers, recommended that the manager of that factory be heard before the board in Germany; but this did not occur.

"There are only three factories in Germany engaged in the manufacture of rubber shoes. The Harburg factory produces, according to a statement of its director, 10,000 pairs for each working day, equal to 3,000,000 pairs per year; Hutchinson, at Mannheim—a branch of a French firm—750,000 pairs a year; and Volpi & Schlüter, in Berlin, 325,000 pairs. These figures include rubber-soled canvas shoes, the export of which, as gleaned from well-informed sources, exceeds the import materially. Official statistics of these cannot be given, the custom house figures grouping them with other linen goods. Of rubber shoes, 637,900 kilograms were imported (including 450,100

kilograms from Russia) valued at 4,210,000 marks; there were exported 287,200 kilograms, valued at 1,723,000 marks.

"A comparison of 18 pairs of shoes from the Harburg factory with a corresponding lot from St. Petersburg showed the former to weigh 7804 grams, and to cost 39.06 marks, while latter weighed 7305 grams, and cost 47.29 marks. This figures the price for the Harburg shoes at 500 marks per double hundred weights, and that for the Petersburg shoes at 660 marks. These figures have been accepted and considered for recommendation by the imperial bureau of statistics, in fixing the import and export duties. But these are selling prices, which include expenses, profits, and, on foreign shipments, freight, and duty. The average price of foreign made shoes is about 500 marks, so that the present tariff represents about 12 per cent. *ad valorem*, and the proposed tariff about 20 per cent. If the assertion is made by the Harburg factory that their product is equal in quality to that of foreign manufacture, it is in line with their statement that they can hold their own with English factories in proofing fabrics, a statement which has proved a detriment to the German trade in waterproof goods and has succeeded in killing the efforts to bring it to greater perfection. All impartial experts agree that their statement does not hold true, and that the foreign manufacture, though being much lighter, is decidedly more durable.

"This is proved conclusively by the difference in the prices (for Roumania the Harburg factory concluded a price agreement with the St. Petersburg factory whereby the latter sell 15 per cent. higher than the former, and yet they have a preponderance of the sales). That the two are of entirely different quality is shown by the fact that the firm of Volpi & Schlüter have made the representative of the St. Petersburg factory their sole agent for Germany—a deal which is most profitable to themselves. It seems to be intended, therefore, to saddle the German public with higher prices for the superior goods, in favor

RATE OF DIVIDENDS EARNED BY GERMAN RUBBER FACTORIES FOR TEN YEARS PAST.

NAMES OF COMPANIES.	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
Vereinigten Gummiwaren-Fabriken, Harburg-Wien.....	24	25	20	22	29	29	24	12	17½	20
Continental Caoutchouc-und Guttapercha Co., Hanover.....	27	27	30	40	50	55	55	55	40	45
Hannoverschen Gummi-Kamm Co., Hannover.....	6½	12	17	21	16	20	22	18	11	12
Vereinigten Berlin Frankfurter Gummiwaren-Fabriken, Berlin.....	8	8	8	8	6	8	8	7	5	7
Vereinigten Hanfschlauch-und Gummiwaren-Fabriken.....	10	11	10	9	11½	12½	8	8	7	10
Carl Schwanitz & Co., Aktien-Gesellschaft, Berlin.....	—	12½	12½	9½	10	12	14	9	6	8
Gummiwaren-Fabrik Voigt & Winde, Berlin.....	8	8	8	7	6	6	6	6½	6½	6

of a single factory who find a ready market for their product, and are in a brilliant financial condition. It is urgently solicited to let the present tariff prevail.

"The Deutsche Gummiwaren-Fabrik, Aktien-Gesellschaft, vormals Volpi & Schlüter, who formerly manufactured mechanical goods only, and have recently, among other articles, taken up the making of rubber shoes, are the only rubber factory failing to declare a dividend in the later years. Specific reasons are the cause of this retrogression. The falling off of the dividends, especially during the years of 1898 and 1899, leads back directly to the then rapidly advancing prices of crude rubber. These same conditions have made themselves manifest in foreign rubber factories."

REPLY OF THE HARBURG-WIEN COMPANY.

PETITION TO THE CENTRAL SOCIETY OF GERMAN RUBBER GOODS FACTORIES, BERLIN:

In regard to the report of the Hamburg Board of Trade, we take the liberty of calling attention to the following points:

It is claimed that the Harburg shoe is inferior to that of foreign manufacture, but by the testimony of our customers, who handle Harburg as well as St. Petersburg shoes, we can prove that the Harburg shoe, when of equal price with the St. Petersburg shoe, wears at least as well as that.

Further, the comparison of weights and prices, as given in the report, is equally incorrect. Eighteen pairs of Harburg shoes weigh 9.30 kilograms and cost 62.10 marks; 18 pairs of St. Petersburg shoes, identical in shape and size, weigh 9.725 kilograms and cost 67.40 marks. This proves that the prices and weights are nearly alike.

100 kilos Harburg shoes represent a value of..... 668 marks.
100 kilos St. Petersburg shoes a value of.... .. 693 marks.

When it is further pointed out that the prices are the selling prices, in which, for the foreign product, freight and duty are included, our answer to that is that the St. Petersburg shoes are sold direct to the retailer, with a discount of 33 $\frac{1}{3}$ per cent., while our shoes go to several jobbers, and from them to the wholesaler, who sells to the retailer at an average discount of 35 per cent. By our *modus*, therefore, the whole middle trade participate in a fair profit, while the representative of the St. Petersburg factory reaches the retailer direct. The profit which we might derive, to offset the duty, freight, etc., on the St. Petersburg goods, goes to the German middle trade.

When in the report of the Hamburg Board of Trade, reference is made to our profits, we will state that they are derived from the great variety of our manufacture; we make numerous specialties, which yield a fair profit, in comparison to which the rubber shoe business, on account of the flooding of the market by Russian and American competitors, is simply a losing venture.

In regard to Roumania, we will state that our Harburg factory does not sell a single shoe there; our establishment in Austria attends wholly to that trade, so that statement on this part of the board of trade bears scarcely any relation to the German tariff. As a matter of information only, we may remark: In former years our Austrian factory did an extensive business in Roumania, but when the financial condition of our customers there became so as to give much cause for apprehension, we withdrew our trade, and thus enabled the representative of the St. Petersburg factory to gain a firm footing. When the financial conditions again became healthful, we sought our former market, and certain arrangements were entered into, by one of which we reserved the right of selling lower than the St. Petersburg factory. This price agreement was of equal advantage to both; on account of the risky financial conditions it was necessary to obtain higher prices to insure against loss.

Regarding the firm of Volpi & Schlüter, of whom it is said that they have profited by their agreement with the St. Petersburg factory, we have before us a letter from that firm, to the effect that the statement in the report of the Hamburg board of trade in no wise relates to them, and the best proof that they are not "spinning silk" in the rubber shoe business can be found in their financial *status*, no dividends having been declared by them since 1896.

We can only repeat that the rubber shoe business is not profitable, and, unless we are supported by the government, by laying a higher import duty on rubber shoes, it only remains for us to curtail that branch of our factory or close it up entirely, thereby depriving hundreds of workmen of their livelihood.

We believe that it is only right and fair to prevent Russia and the United States of America from bringing rubber shoes into Germany at a tariff of only 12 per cent. *ad valorem*, while we can export rubber shoes to those countries only at a duty of from 35 to 40 per cent. *ad valorem*.

It certainly is the intent of our government to retain to itself an industry strong in capital and profitable to its employés, and we hope that our desire for a higher tariff will be considered, and therefore beg that the respected Central Society of German Rubber Goods Factories use its influence in this regard in the proper quarters. Respectfully,

VEREINIGTE GUMMIWAREN-FABRIKEN HARBURG-WIEN.

A RUBBER FARM FOR SALE.

VARIETY is added to the pages of THE INDIA RUBBER WORLD this month by the admission of an advertisement of some productive rubber estates in the Amazon valley, that are offered for sale. Attention is called to the fact, as it illustrates the growing scope of the India-rubber interest. Not only are manufactures of India-rubber and the raw material itself bought and sold nowadays, but lands for forming plantations, and seeds and plants for the same, and now comes the entering wedge of a new condition in the crude rubber business, when the lands, recently wild, on which rubber grows native, are coming under private ownership and control. No doubt within ten years from now rubber lands in the United States of Brazil will be bought and sold as an ordinary business transaction, just as farming lands are bought and sold in our own United States.

AN ITEM OF NEWS FROM JAPAN.

KENZO OKADA writes to THE INDIA RUBBER WORLD from Tokyo, Japan, that his uncle, J. Fujikura, at the head of the Fujikura Insulated Wire Works, of that city, died on October 8, after an illness of several weeks. The business will be continued under the name of Fujikura Insulated Wire and Rubber Co., by Mr. Okada and other relatives of Mr. Fujikura, in connection with a new waterproofing plant which was already being planned. The late Mr. Fujikura was also one of the directors in the Oriental Rubber Manufacturing Co., of Tokyo. Mr. Okada, by the way, will be remembered with interest and pleasure in more than one American rubber factory in which he worked while preparing himself to take an active part in developing the rubber industry of his native country.

IN New York on November 13, the sheriff sold out 15 tons of old rubber shoes in storage at No. 32 Moore street for \$2200, under an attachment and execution against Herman Meyer, of Europe, for \$3096, in favor of the United States Rubber Co.

DEATH OF JAMES W. GODFREY.

ON the afternoon of November 9 a fatal accident befell James W. Godfrey, manager of the sales department of the India Rubber and Gutta Percha Insulating Co. (New York). While driving a valued trotting horse, he was thrown from his runabout, sustaining injuries which led to his death the same evening at the J. Hood Wright hospital in New York.

Mr. Godfrey was born in New York city September 15, 1855, and received a collegiate education. He began at once on leaving college an active business career, which proved also to be a successful one. He was interested first in the manufacture of fire arms, but when the development of electrical industries began, he was strongly attracted by the opportunities offered in this new field, and turned his attention to the production of insulated wire. He was connected for several years with the New York Insulated Wire Co., after which—about January 1, 1894—he formed the association with Dr. W. M. Habirshaw in the India Rubber and Gutta Percha Insulating Co., which lasted until his death.

No member of the branch of the trade with which Mr. Godfrey was identified was better known in connection with it, his acquaintance extending throughout the country. It is said that he knew personally some one connected with every electric lighting station in the United States. He was a member of the Electrical Society of New York, and was a regular attendant upon the electric lighting and other similar conventions, taking special interest in the exhibitions held in connection with them, and aiding in the latter both with his advice and in a financial way. He was also an active member of the Electrical Contractors' Association of New York, and was secretary of the Dale Co., manufacturers of electric light supplies. Mr. Godfrey took an active part in building up an export trade in electrical goods, especially in the far East.

The funeral exercises took place on November 12 and the interment was private. The Episcopal services were rendered at the late home of Mr. Godfrey, and a Masonic service was also conducted by Rome Lodge. Mr. Godfrey is survived by a widow and two daughters, one of whom is married.

THE GERMAN OXYLIN WORKS.

THE directors of the Oxylin-Werke, Aktiengesellschaft (Piesteritz, Germany), issued early in October a circular to the creditors of the company, stating that after the failure of the Leipziger Bank, they found it impossible elsewhere to renew the credit for 600,000 marks which had been allowed by that institution. The directors thereupon agreed upon terms with the Leipziger Gummiwaaren-Fabrik, Akt.-Ges., whereby the Oxylin works should be transferred to the latter firm on September 28 last, subject to the sanction of the stockholders of the Oxylin company at a general meeting. At such meeting, on September 25, the desired sanction was not granted. Meanwhile the Oxylin works had lost six week's time. There has since been held a meeting of the principal creditors of the Oxylin company, representing nine-tenths of the indebtedness, who have consented to an extension of time for the settlement

of their claims. These creditors, it is stated, are of the opinion that the works can be disposed of advantageously. For these reasons the directors ask from all creditors an extension to the end of this year.

RUBBER INDUSTRY IN THE CENSUS.

CENSUS Bulletin No. 93, issued from Washington, is devoted to manufactures in Rhode Island for the period covered by the census—the year ending June 30, 1900. Bulletin No. 109 contains similar information for the state of Connecticut. From these bulletins is compiled the following details regarding the rubber industry in the two states named:

RHODE ISLAND.

	Rubber Boots and Shoes.	Rubber and Elastic Goods.
Number of establishments.....	6	9
Total capital.....	\$7,379,867	\$1,631,869
Land.....	\$141,027	\$42,500
Buildings.....	\$1,217,428	\$160,858
Machinery.....	\$976,125	\$275,843
Cash and Sundries.....	\$5,045,287	\$1,152,668
Salaried officers and clerks.....	105	63
Salaries.....	\$124,955	\$58,732
Average number wage earners.....	3,170	1,039
Men.....	1,726	480
Women.....	1,360	550
Children, under 16.....	84	9
Total wages.....	\$1,281,705	\$359,244
Miscellaneous expenses.....	\$443,853	\$200,011
Rent of works.....		\$16,300
Taxes.....	\$8,888	\$3,710
Rent of offices, interest, etc.....	\$434,965	\$180,001
Cost of materials.....	\$3,794,027	\$1,659,676
Principal materials.....	\$3,731,730	\$1,637,271
Fuel and rent of power.....	\$62,297	\$22,405
Value of products.....	\$8,034,417	\$2,518,268

The Bulletin says: "Special attention should be called to the manufacture of rubber boots and shoes. There was one establishment engaged in this industry in 1890, and its statistics, therefore, were included in the group of 'All other industries,' and cannot be used for the purpose of comparison with the totals for 1900. Six establishments were reported for the manufacture of rubber boots and shoes in the twelfth census, with a product valued at \$8,034,417, and the industry ranked fourth in importance according to the value of its products."

CONNECTICUT.

	Rubber Boots and Shoes.	Rubber and Elastic Goods.
Number of establishments.....	5	22
Total capital.....	\$9,530,718	\$6,094,867
Land.....	\$990,400	\$334,447
Buildings.....	\$856,613	\$843,200
Machinery.....	\$1,209,401	\$1,355,331
Cash and Sundries.....	\$7,174,304	\$3,562,089
Salaried officers and clerks.....	107	255
Salaries.....	\$150,396	\$303,532
Average number wage earners.....	4,217	3,006
Men.....	2,451	1,681
Women.....	1,739	1,187
Children under 16.....	17	158
Total wages.....	\$1,986,023	\$765,776
Miscellaneous expenses.....	\$405,852	\$452,293
Rent of works.....	\$11,000	\$14,286
Taxes.....	\$40,417	\$22,145
Rent of offices, interest, etc.....	\$354,435	\$415,862
Cost of materials.....	\$7,176,701	\$5,697,899
Principal materials.....	\$7,105,073	\$5,610,702
Fuel and rent of power.....	\$71,628	\$87,197
Value of products.....	\$11,999,038	\$8,246,240

The Connecticut bulletin contains a note on the work done in this state by Charles Goodyear in the development of the rubber industry. The census of 1890 showed in Connecticut 16 "Rubber and elastic goods" factories, with \$2,300,590 capital, employing an average of 2245 hands, using \$2,093,148 worth of materials, and producing goods worth \$3,476,390.

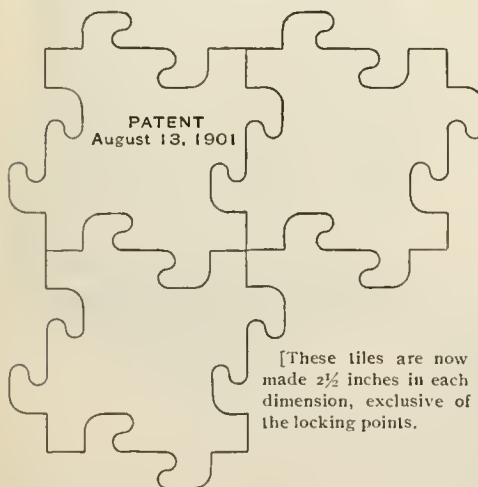
The increase in the rubber industry shown by this census promises to be greater than for any other within forty years. It is interesting to note that these returns are coming forward much more promptly than ever before.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE "MASTER KEY" TILING.

THE new rubber tiling here illustrated has received its name because each piece is complete in itself and is in a sense a master key to the locking and interlocking with its fellows. The advantages claimed for this tiling are: (1) It makes a stronger and safer lock than other tiles; (2) only one shape of tile is needed to complete the covering of any floor; (3) a greater number of designs may be made than with other tiles; (4) borders and fields may be made with either odd or even numbers of tile; (5) all figures in designs balance, not appearing heavier at one end than at the other; (6) any other design may be reproduced, and peculiar designs may be furnished which may not be duplicated by the use of any other tile; (7) tiles may be made in all colors; (8) it is more artistic than other tiles; (9) tiles may be cut in half or quarter, using different colors, while still retaining the locking, or lockfast, principle; (10) old tiles may be replaced with new at any time.

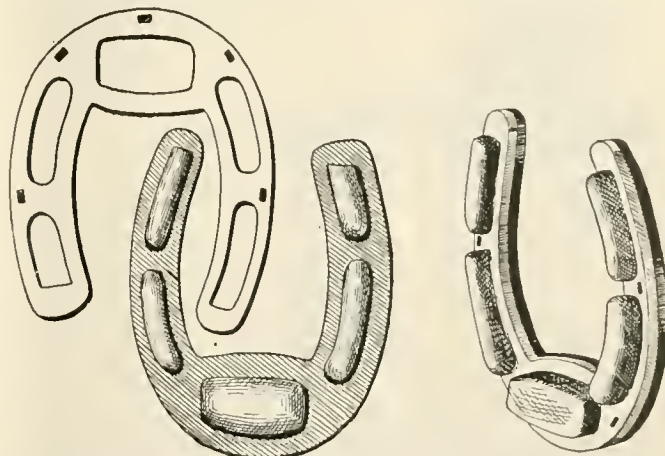
The "Master Key" tile is covered by a series of strong patents, on principle and design, granted in the United States and abroad, to the inventor, Joseph K. Sierer, of New York. Mr. Sierer has had great experience in the business, having been employed for several years in the setting and laying of all the tiling produced by one of the largest concerns in that line. He has now conceived the idea of the "Master Key" tiling, and, believing it to be superior to anything of the sort hitherto known, has withdrawn from his old position and has associated himself with the new tiling department of the Alden Rubber Co. The inventor dwells especially upon the almost unlimited opportunity afforded to the designer through the simplicity and completeness, each piece in itself, of the new tiling. A book has been compiled, of colored diagrams displaying more than 100 complete designs, suitable within their range for any taste and for any purpose, from the smallest elevator floor to the largest halls.



J. C. Pierrez (No. 91 Reade street and No. 107 Chambers street, New York) is at present showing the new tiling to prospective purchasers at his place of business. Mr. Pierrez is sales agent for the new People's Hard Rubber Co., of Akron, Ohio, whose factory is nearing completion, but while waiting for his company to begin active operations he has acquired an interest with the inventor in the new tiling patents and will devote some attention to the tiling trade. The Alden Rubber Co. (Akron), proprietors of the Barberton Rubber Works, have the exclusive control of the manufacture and sale of the "Master Key" tiling.

STROUD CUSHION PAD SHOE.

THIS shoe is composed of a steel frame resembling a common horseshoe with wide web, the latter containing five apertures, one at the toe and two on each side, and a rubber pad



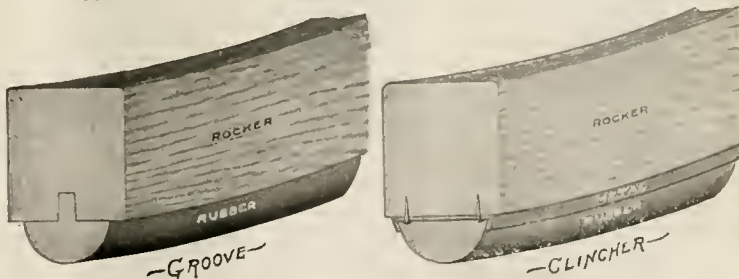
STEEL FRAME AND RUBBER PAD.

SHOE COMPLETE.

with five pendant calks to correspond. Each of the calks fits into an opening in the frame, the pad going between the steel frame and the horse's hoof, leaving the calks to pass through and rest on the ground, bearing the weight of the horse and placing him upon three-fourths of an inch of solid rubber. A thin layer of webbing on the inner surface of the pad prevents the rubber from coming in contact with the hoof. This rubber pad and the rubber calks relieve the horse from jarring and concussion while traveling and also prevent slipping on wet asphalt or other pavements, enabling the animal to travel with safety even on rough ice, for which purpose the rubber is better than dull steel calks. The claim is made for this style of horseshoe that it places the weight of the horse where it belongs, viz.: on the outside wall of the hoof, and not on the sensitive bottom, or across the frog, as is true of some rubber pads. Nor does this shoe cover the bottom of the foot, and thus exclude the air from it. The Stroud horseshoe is sold complete, at a price not greater than many smiths charge for the best quality for shoe, and not as much as ordinary shoes and rubber pads cost when bought separately. [The Stroud Cushion Pad Shoe Co., No. 88 Front street, Worcester, Massachusetts.]

RUBBER TIRE FOR ROCKING CHAIRS.

AND now comes an inventor with the idea that the same comfort which the rubber tire adds to travel on wheeled vehicles



may as well be enjoyed in some degree to those whose exercise goes no further than in the use of the rocking chair. The two cuts herewith illustrate two styles of attaching the "Springfield

Rubber Tire for Rocking Chairs." Any carpenter or mechanic will be able to apply these tires, by using the grooving tool, tacks, etc., supplied with them. These chair tires have been recommended for hospitals, by many physicians, and have proved satisfactory on hotel verandas, in addition to their advantages for use in homes. [Springfield Rubber Tire Rocker Co., Springfield, Ohio.]

O'SULLIVAN'S RUBBER CEMENT.

THE accompanying cut illustrates the appearance of a can of rubber cement, as placed on the market by the O'Sullivan Rubber Co. (Lowell, Massachusetts), the rubber heel and sole manufacturers. The company state that "This cement was put on the market through necessity."

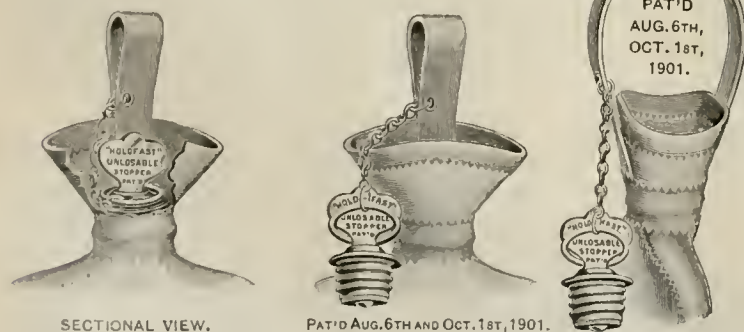


That is, some dealers were found to be enthusiastic over the company's rubber soles, and some were not. Investigation showed that "it was all on account of the cement." As they write to THE INDIA RUBBER WORLD: "When we made our rubber soles, they had to be attached to the

leather sole, and we saw then the necessity of making a rubber cement that would do the work effectively."

"HOLDFAST" UNLOSABLE STOPPER.

THE idea of this recently patented device may be gained readily by an inspection of the various illustrations which appear herewith. Ever since hot water bags have been used, their owners have been losing or mislaying the stoppers. There never has been a way of keeping the bag and the stopper in the same locality, except by tying them together with string, ribbon, or other makeshift, and these always become wet, soggy, and twisted into uselessness. It is said that heretofore no device was known by which one



SECTIONAL VIEW.

PAT'D AUG. 6TH AND OCT. 1ST, 1901.

could fasten the stopper to the bag and yet allow the stopper to turn easily. The "Holdfast" unlosable stopper, for which two patents have just been granted, is offered as a solution of the difficulty. The stopper has a loose revolving ring below the handlebar to which ring a neat chain is secured, which is attached to the handle of the bag. The most notable thing about it is its simplicity and the fact that it never entangles. The stopper never gets lost. The "Holdfast" stopper was pat-

ented in the United States August 6 and October 1, 1901, and additional patents in this country are pending. These patents are protected against infringement by the Patent Title and Guarantee Co. (New York). Patents have also been applied for in Canada, Great Britain, and Germany. The exclusive right to manufacture these stoppers is controlled by A. Schrader's Son, No. 32 Rose street, New York.

COMBINATION SYRINGE AND WATER BOTTLE.

THE article illustrated in the accompanying engraving forms an exceptionally complete outfit in the way of a fountain syringe and water bottle.

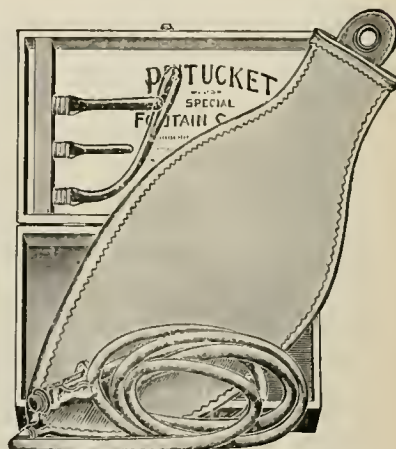
The tubing connections and pipes are of a larger internal diameter than usual, to admit of rapid flow. Each syringe is packed in a handsome paper box, with hard rubber vaginal irrigator, curved vaginal pipe, rectal and infants' pipes, and metal shut off and screw hook. The water bag is made of maroon rubber, with black trimmings, so designed as to present an attractive appearance. This combination as a whole is protected by patents, and bears the brand "Special."—Under the same patents are made the "Special" water bottles, also of maroon rubber and with black trimmings. These goods are offered at a higher price than many other water bottles, but are guaranteed for two years. [Whitall Tatum Co., Nos. 46-48 Barclay street, New York.]



"PENTUCKET SPECIAL" FOUNTAIN SYRINGE.

THIS cut represents the form of the "Pentucket Special"

fountain syringe, from a new line of rubber goods introduced by The H. E. Webster Co., Inc., successors to John A. Webster & Co., No. 21 Blackstone street, Boston. The house has been long established as manufacturers, importers, and jobbers of druggists' glassware, in connection with which they have handled other druggists' sundries. Since the beginning of September last they have been having a special line of syringes and hot water bags manufactured for their trade.



VENN'S PATENT SHOE MARKER.

IN the article on Mr. Venn's shoe marker, published in this department of THE INDIA RUBBER WORLD for September 1

[page 361] an error occurred in stating the capacity of the device, which that gentleman asks to have corrected. As printed, the statement read: "The operator can mark, on the average, about 600 pairs per hour on the last, and from 1000 to 13,000 off the last." The latter figures, of course, should have been 1300.

PAD CLEANER AND INK DISTRIBUTOR.

EVERY user of a rubber stamp desires, naturally, to get a good impression from it. Hence it is important that the stamp

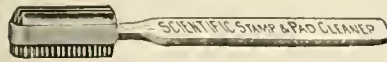


FIG. 1.

be kept clean—that is, free from dust and also lint from the stamping pad. In the accompanying illustrations Figure 1

shows a new article made of India-rubber—a stamp and pad cleaner, described as "a combination of a brush having hexagon-shaped teeth on one side and a three blade scraper on the other side, made entirely of rubber, into which is inserted a handsomely finished wooden handle." Figure 2 shows the method of cleaning a rubber stamp with this new device. All foreign substances can thus be removed without marring or cutting the stamp. If the dry brush will not remove dirt that has become caked on the stamp, soap and water may be used. Of course it is equally important, in using a rubber stamp, that the ink pad should be clean. The cleaner

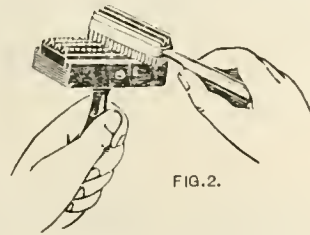


FIG. 2.

above described is equally adapted for this purpose, as indicated by Figure 3. Finally, this handy little device can be put to another use—helping to replenish the supply of ink in the pad, as shown in Figure 4.

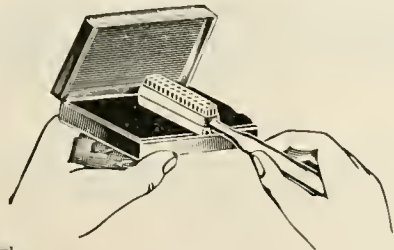


FIG. 3.

above described is equally adapted for this purpose, as indicated by Figure 3. Finally, this handy little device can be put to another use—helping to replenish the supply of ink in the pad, as shown in Figure 4.

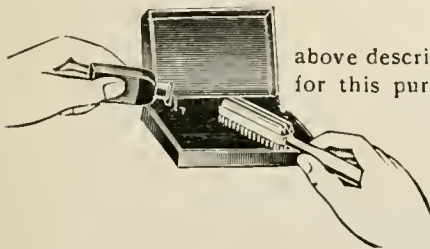


FIG. 4.

After the pad has first been filled, a small amount of stamp ink is poured on, and then distributed thoroughly with the brush side of the distributor. The retail price is 35 cents.] The Superior Rubber Type Co., No. 126 Market street, Chicago.]

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED OCTOBER 1, 1901.

- NO. 683,450. Horseshoe pad. Charles Ehlers, West Hoboken, New Jersey.
- 683,638. Wheel tire. George H. Clark, Boston, Massachusetts.
- 683,740. Pneumatic wheel tire. Albert M. Ferguson, Winnipeg, Canada, assignor of two thirds to Thomas C. Allum and Henry D. Metcalfe, Montreal.

ISSUED OCTOBER 8, 1901.

- 683,991. Waterbag for the head. Stella Rowe, Cincinnati, Ohio.
- 684,050. Manufacture of tires for vehicle wheels. Henri Falconnet and Maurice Perodeaud, Choisy-le-Roi, France.
- 684,078. Breast pump. William H. Martin, New York city.
- 684,108. Process of lining pneumatic tires. Joseph Savoie, Central Falls, Rhode Island.

- 684,146. Apparatus for applying rubber tires to vehicle wheels. John G. Webb, Springfield, Ohio, assignor to the Victor Rubber Co.
- 684,157-684,158. Elastic tire. William F. Williams, London, England.
- 684,273. Rubber tire. William W. Leavenworth, Batavia, New York.

ISSUED OCTOBER 15, 1901.

- 684,416. Soft tread horseshoe. Brian J. Downey, Washington, D. C.
- 684,550. Pneumatic tire for vehicles. Charles A. Pettie, Brooklyn, New York.
- 684,557. Removable elastic heel pad. Neil Stalker, West Hartford, Connecticut.
- 684,647. Means for plugging pneumatic tires. Hans P. Madsen, New York city.
- 684,701. Water bag. Christian W. Meinecke, Jersey City, New Jersey, assignor to Meinecke & Co., New York.

ISSUED OCTOBER 22, 1901.

- 684,935. Elastic horseshoe. Joseph Hirsche, Kansas City, Missouri.
- 685,002. Pneumatic tire for vehicles. Isaac S. McGiehan, New York city.
- 685,038. Substitute for rubber and process of producing same. Pearis B. Ellis and Albert V. Werner, Carson City, Nevada.
- 685,041. Washing rubber. Louis C. Gerken, New York city.
- 685,077. Elastic tire. William F. Williams, London, England.
- 685,158. Life preserver. Icilius W. Maccolini, Inwood, New York.

ISSUED OCTOBER 29, 1901.

- 685,450. Vehicle wheel and means for attaching rubber tires thereto. William J. Kent, Brooklyn, New York.
- 685,491. Composition for mending punctures in pneumatic tires. Lewis D. Scott, Friendship, and Robert B. Nephew, Hornellsville, New York.
- 685,627. Vehicle wheel and tire. Charles Miller, Binghamton, New York.

DESIGN PATENTS.

- 35,173. Horseshoe pad. Frank S. Smith, Chicago, assignor to William McLaren, same place. Issued October 8, 1901.
- 35,209. Vehicle tire. Alvie V. Kiser, West Liberty, Ohio. Issued October 22, 1901.

ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

- 18,036. George Frederick Priestley, Clun House, Surrey street, Strand, London. Pneumatic and rubber lined shoes for horses. September 10.
- 18,142. John Adair, John's Hill, Waterford. Pneumatic tires and connections. September 11.
- 18,146. John Eckersley, Preston, Lancs. The "J. E." non-slipping and unpuncturable tire for vehicles. September 11.
- 18,235. James Edgar Hatch, Clun House, Surrey street, Strand, London. Resilient tires for cycles and carriages. September 12.
- 18,351. Lewis Johnstone, Southampton buildings, Chancery lane, London. Pneumatic tire covers and the manufacture thereof. September 13.
- 18,441. William Frederick Tupper, 27, Chancery lane, London. Pneumatic tires. September 14.
- 18,450. James Henry Wallace and Andrew Nixon Macalister, 100, Wellington street, Glasgow. India-rubber protecting ring for umbrellas. September 16.
- 18,452. Arthur Cook, Quinton, near Birmingham. Puncture sealing device for pneumatic and tubeless tires and air tubes. September 16.
- 18,475. James Hearth and Edward Everard Preston, 111, Hatton garden, London. Pneumatic tires. September 16.
- 18,501. William Robert Lake, 45, Southampton buildings, Chancery lane, London. Protecting covers for pneumatic tires. September 16.
- 18,528. David Noble Bertram and Samuel Milne, Manchester. Improvements in the manufacture of Gutta-percha. September 17.
- 18,539. Reuben Heaton, Birmingham. Self inflating pneumatic tire, in compartments. September 17.
- 18,566. Hugh Taylor Stephens, 7, Quay street, Carmarthen. Improved means of the conservation of pneumatic tire covers. September 17.
- 18,599. Martin Zakheim and Leopold Ernest Butcher, 4, South street, Finsbury, London. Improvements in the inflation of pneumatic tires. September 17.
- 18,689. Lewin Karmel, Nottingham. Means for repairing pneumatic tires. September 19.



RUBBER GOODS

Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means "Carbon" grade—a good article; a double diamond means "Double Diamond" grade—a fine article; a triple diamond means "1846 Para" grade—a splendid article and the best we can make. Our brands on hose, belting, packing

*Belling,
Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,*

and other rubber goods are guarantees of high quality and long service.

Chicago,150 Lake St.
St. Louis,411 No. Third St.
San Francisco, 509 Market St.
Boston,24 Summer St.
Philadelphia, 724 Chestnut St.

*C. I. Packing,
Ruby Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.*

NEW YORK BELTING & PACKING CO. LTD

PIONEERS AND LEADERS—25 PARK PLACE, NEW YORK.

Mention The India Rubber World when you write.

GARDEN HOSE FOR 1902.

Rubber Lined Cotton.

Three, Four, Five
and Seven ply Hose

—ALL COLORS.—

Write for Samples and Prices.

The Mechanical Rubber Co.,

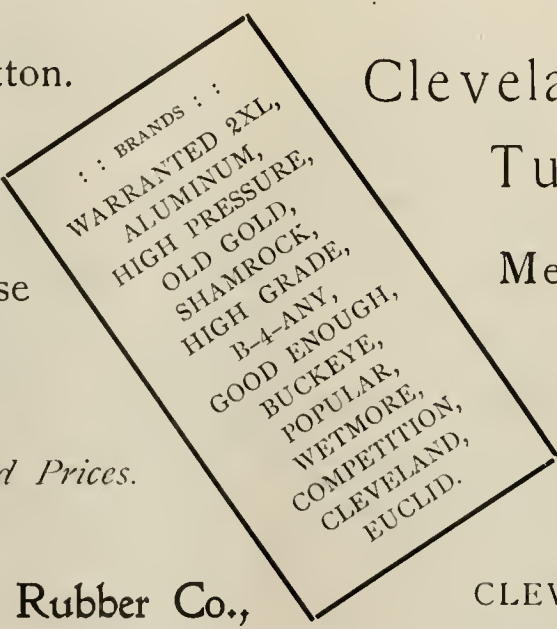
Cleveland Seamless
Tube Hose

Means Larger Sales,

No Complaints

For the Jobber.

CLEVELAND, OHIO.



Mention The India Rubber World when you write.

RUBBER PRODUCTION OF THE CONGO RIVER COUNTRY.

THE output of India-rubber this year from the Congo Free State alone can hardly fail to reach 12,000,000 pounds, besides which portions of French Congo and other regions adjacent to the Congo river help to swell the rubber shipments by that great waterway. It is one of the wonders of the crude rubber trade, how rapidly it has been developed in this particular state, and how well the production has been maintained. The explorer Stanley proved to be right when, eleven years ago, on emerging from a journey across central Africa, he described the Congo forests as a "reservoir of rubber." Already some rubber had been marketed from the Congo Free State; some of it, indeed, had appeared the year before—in 1889—at Antwerp, thus affording a beginning to what has become one of the world's great rubber markets. But the world had yet to learn how vast were the rubber resources of "the dark continent."

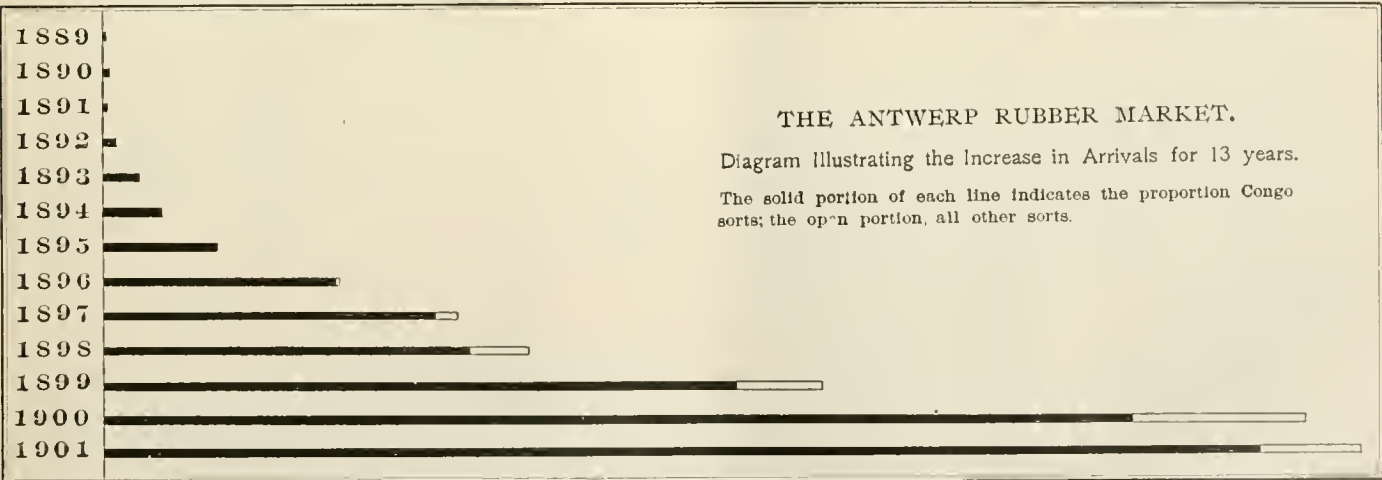
While other sources of African rubber supplies—as Sierra Leone, Gold Coast Colony, Lagos, Angola, Mozambique, and Madagascar—have had their "boom," followed by a decline in production, rubber from the Congo continues to come, in an ever swelling volume. Of course the supply cannot continue

YEARS.	Pounds.	YEARS.	Pounds.
1889.....	10,340	1896....	(20,900) 2,454,925
1890.....	66,000	1897....	(266,844) 3,694,139
1891.....	46,200	1898....	(616,629) 4,432,100
1892.....	138,523	1899....	(903,025) 7,486,336
1893.....	367,831	1900....	(1,751,270) 12,535,677
1894.....	600,076	1901....	(Partly estimated)
1895.....	1,168,363		(1,020,956) 13,096,409

[Arrivals for 1901 reported only to October 31.]

MORE RUBBER FOUND IN THE FRENCH CONGO.

AN important discovery of new rubber supplies is reported from the French Congo. For some time past the Commercial Society of the French Congo has had charge of explorations of the regions north of the Mobangi, an important tributary of the Congo river. Lately Georges Seguin, a member of this society, ascended the Kuango tributary of the Mobangi river for 300 miles. He found the banks densely populated with a race well developed physically, and engaged in the cultivation of small farms. Mr. Seguin found the country rich in rubber creepers of the genus *Landolphia*, though the people possessed no knowledge that rubber had any commercial value. Mr. Seguin reports that most of the natives he saw in the Kuango basin expressed a willingness to engage in collecting rubber



to increase indefinitely in the same proportion, the world could not consume the rubber if it did. It would not be surprising if any year now should mark the beginning of a decline in the Congo rubber output, but the fact that no signs point as yet to this end tends to keep rubber manufacturers from fearing a shortage in raw material for a good while to come.

The accompanying diagram is based, not upon the rubber exports from the Congo Free State, but upon the arrivals at Antwerp, the greater part of which are from this source. The first rubber shipped from the Congo found its way to the rubber markets already established, and the four or five tons that reached Antwerp in 1889 did not comprise all the Congo production, which amounted that year to about 130 tons. But in time practically all the rubber from the Free State began to be consigned to Antwerp, in addition to which, in the past few years, various other kinds of rubber—including Pará even—have reached that market.

The following table denotes the total quantity of the rubber arrivals at Antwerp, in each year, and also (in parenthesis) the amount of rubber other than Congo sorts during the past six years:

and to open friendly relations with European traders.—The exports of rubber from the French Congo during 1899 are officially reported at 1,445,400 pounds.

PROFITS OF ONE CONGO RUBBER TRADING COMPANY.

LA *Gazette Coloniale*, of Brussels, in a recent issue, said that reports were current of an arrangement being concluded between the Société Abir and the Congo Free State government, under the terms of which "the company would be reestablished in its former privileges, the suppression of which has caused a notable decrease in rubber production." The report had not, however, been confirmed officially.

The Anglo-Belgian India-Rubber and Exploring Co. was organized in Brussels August 2, 1892, and reconstituted January 31, 1898, as "Abir, Société à responsabilité limitée." The capital is stated at 1,000,000 francs, in 2000 parts of 500 francs each, the original value of which is not designated. According to *The Speaker*, of London, in its issue of August 25, 1900, one-half the capital is held by the Congo State government, or, in other words, by the king of the Belgians. The Société Abir, in fact, is one of the five companies ostensibly under private control, which have been engaged in collecting rubber in the

Domaine privé, for which privilege it has been necessary to make a liberal division of profits with the government. What is meant by the recent suppression of the Abir's privileges, and their proposed reestablishment, referred to in *La Gazette Coloniale*, requires further explanation. Certainly there has been seen, from this side of the Atlantic, no decline in the amount of Caoutchouc handled by the Société Abir.

The last INDIA RUBBER WORLD reported from Antwerp that "on October 7 a large transaction was concluded for the United States," covering about 332 tons of Lopori sorts. According to *La Gazette Coloniale*, this rubber belonged to the Société Abir. On September 7 the steamer *Philippeville*, from the Congo, arrived at Antwerp with 810 tons of rubber, of which 265 tons were credited to the Abir. The total arrivals at Antwerp for the Abir, during twelve months past, according to THE INDIA RUBBER WORLD'S record, have amounted to 822 metrical tons, or 1,809,277 pounds of rubber. These figures, however, have not been as large as had been predicted.

A Brussels newspaper in February, 1900, reported that "the company will henceforth produce 100 tons of rubber monthly, which would make, at 6 francs profit per kilogram, 7,200,000 francs." But rubber was selling at a high price then. In July, 1900, it was supposed, on the Brussels bourse, that the Abir had received and sold during the preceding six months about 800 tons of rubber, with an average profit of four francs per kilogram [35 cents per pound], which would give a profit of 3,200,000 francs profit for the half year. It may be stated that trading in the shares of this, and other African rubber trading companies, on the bourses of Antwerp and Brussels, is influenced by the amount of rubber handled by them, and also by fluctuations in the price of rubber. Thus a report in regard to "Abir" in May last: "It is announced that a shipment of 800 tons of rubber for this powerful company is imminent [but it never came to hand], and it seems probable that the shares will be subject to an important increase in valuation."

The profits of the Société Abir, based chiefly on rubber, but also to some extent on ivory, have been, for two recent years:

For 1898.....2,482,697 francs=248 per cent.
For 1900.....4,873,356 francs=487 per cent.

At the beginning of 1900 shares in Abir were quoted at 14,500 francs, or 29 times the nominal value; at the beginning of 1900 the quotation was 17,600 francs, or 35 for one; by September, 1900, the figure rose to 28,925, or practically 60 for one; at the beginning of this year the rate was 25,075, or 50 for one. During the year there has been a steady decline, in keeping with generally falling values on the Belgian bourses, the rate on October 25 being only 15,050 francs.

It may be of interest to quote here from *The Speaker*—the London journal already referred to: "So far as the present writer is aware, no allegations of ill treatment of the natives have ever emanated from the districts where the Société Abir conducts its operations." And a note in *La Gazette Coloniale* says: "The relations between the agents and the native population have always remained satisfactory."

Another statement in the last named journal is that the company has engaged largely in the planting of rubber creepers (*Landolphia*), to provide against the exhaustion of the supply of rubber.

ABOUT importations of rubber articles into Russia, it is officially reported from Kiev: "Rubber goods for surgical purposes, which previously came exclusively from Germany, are now also manufactured of equally good quality within this country."

EXPORTS OF AMERICAN RUBBER GOODS.

THE values of exports from the United States of goods classed as "manufactures of India-rubber" during the first nine months of 1901, compared with former years, are stated officially as follows:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
Jan-June.....	\$300,095	\$200,267	\$920,334	\$1,420,706
July.....	51,554	91,089	153,488	296,121
August.....	47,268	102,951	129,264	279,483
September....	48,736	173,090	118,029	339,855
Total, 1901	\$447,653	\$567,397	\$1,321,115	\$2,336,165
Same, 1900	401,604	411,899	1,117,539	1,931,042
Same, 1899	(a)153,462	203,921	1,147,165	1,504,548

(a) Included in "All Other" prior to July 1, 1899.
[Exports to Hawaii and Porto Rico not included.]

There were exported in September 471,276 pairs of rubber footwear, against 137,844 pairs in September, 1900, and bringing the total exports for the present calendar year up to 1,366,322 pairs.

Exports of reclaimed rubber, from January 1 to September 30:

	1899.	1900.	1901.
Value	\$324,604	\$415,285	\$263,195

AMERICAN IMPORTS OF RUBBER GOODS.

THE value of the imports of India-rubber and Gutta-percha goods during the first nine months of the three past calendar years has been as follows:

	1899.	1900.	1901.
India rubber goods	\$333,986	\$432,907	\$363,254
Gutta-percha goods.....	109,386	210,576	86,575
Total Imports.....	\$443,372	\$643,483	\$449,829
Reexports	57,848	13,319	9,980
Net Imports....	\$385,524	\$630,164	\$439,849

NEW TRADE PUBLICATIONS.

THE BOSTON WOVEN HOSE AND RUBBER CO. have issued a "Catalogue of Marine Rubber Goods," comprising hose (fire, suction, steam, wash-deck, and ash-sprinkling), hose pipes, couplings, and strainers, of special design, best suited to and approved for use in merchant or government vessels; also packings, gaskets, mattings, and tiling required aboard ship. The reason for the preparation of a special catalogue of this character lies in the fact that the quality and general construction of hose and appurtenances for marine purposes differ in many instances from goods for kindred uses ashore. This pamphlet is designed, therefore, to afford assistance to purchasers in determining the quantity, quality, sizes, and lengths of hose required by steam vessels, together with the most suitable nozzles, etc., not only for merchant steamers as required by law governing such equipment, but as specified for the United States navy. In addition to the illustrations of the goods described, the booklet is embellished with full page half-tone views of the more notable vessels in the American navy, [5¾"×9". 44 pages.]

B. F. STURTEVANT CO. (Boston) have issued their Catalogue No. 114—"The Sturtevant Steam Hot Blast Heating and Drying Apparatus and Dry Kilns." It is attractive in appearance, interesting as reading matter, and illustrated in a manner that will compel attention. [6½"×9½". 86 pages.] The Sturtevant catalogues ought to prove interesting reading in the office of every rubber factory,

NEWS OF THE AMERICAN RUBBER TRADE.

EXTENSIVE FACTORY IMPROVEMENTS.

THE Gutta Percha and Rubber Manufacturing Co. (New York) are making extensive additions and improvements to their works on Franklin and Skinman avenues, Brooklyn. A new power press and Custodis stack are being erected—to accommodate four Babcock & Wilcox water tube boilers of 300 horse power each. Their sprinkler system is being enlarged and carried over the entire plant, supplied by a 15 gallon water tank supported on steel frames. The company have contracted with the Farrel Foundry and Machine Co. for several mills and calenders; also for a large four platen press of new design and great power. All these improvements have been under way for some time and will be completed about January 1, 1902.

PROGRESS OF THE VOORHEES COMPANY.

A SHORT three years ago the Voorhees Rubber Manufacturing Co. (Jersey City, New Jersey) began business in a modest way. Two years later, a large increase in their orders demanding more room, they erected a substantial four story building. To-day they are making a further addition of a two story brick building. Both of these buildings and the original plant are equipped with the very latest rubber machinery, a noted addition being the largest hydraulic belt press now in use. The Voorhees company are noted for the high quality of goods that they turn out, and are the inventors of a number of valuable specialties which are having a very large sale. For example, the "Nubian" packing, which is theirs, has gained friends from the start, and has brought it commendation from the highest sources. An interesting feature about this packing is that the United States cruiser *Montgomery* has been equipped with it throughout, under a strong endorsement by the government for all claims made by its manufacturers.

STOUGHTON RUBBER CO.'S EXTENSION.

THE Stoughton company have decided to add to their present lines of manufacture, the production of certain mechanical specialties on which they hold exclusive patents. In order to accommodate the new work several buildings, constituting practically a new and complete factory, are being erected on a tract of two acres lately bought by the company for this purpose. It is expected that about 100 employés will be added to the company's pay roll.

THE KOKOMO INCREASES ITS CAPITAL.

THE officers of the Kokomo Rubber Co. (Kokomo, Indiana) have filed a certificate with the secretary of state of Indiana, to the effect that the paid up capital of the company has been doubled. The Kokomo company was incorporated early in 1896, and its capital is now four times as large as in the beginning.

PITTSBURGH RUBBER AND LEATHER CO.

THIS company has been organized for the purpose of taking the distribution, in the territory of which Pittsburgh is the commercial center, of the Diamond Rubber Co.'s products. The company also acts as distributors for the Charles Munson Belting Co. (Chicago). The president of the company is *W. B. Miller*, secretary of the Diamond Rubber Co., at Akron. The vice president is *W. C. Rae*, who was formerly vice president and general manager of the Charles Munson Belting Co. of Pittsburgh. The secretary and treasurer is *J. W. Paul*, formerly manager of the Pittsburgh branch of the Revere Rubber Co. A

letter from an official of the company says: "The prospects for business in this territory were never brighter, and we look for a prosperous business for some time to come." The company is a partnership association, organized August 22, 1901, with \$9000 capital.

JAMES W. BYRNES BELTING AND HOSE CO.

THIS very successful company, with principal store in St. Louis and branches at Kansas City and Joplin, Missouri, dealing in mechanical rubber and leather goods, is about to open a buying office in New York. The company was incorporated in January, 1897, with \$10,000 capital, paid up. The amount was increased in January, 1899, to \$20,000, and one year later to \$40,000. The undivided profits now are \$10,000. The business is confined to all kinds of belting, hose, packing, fire hose, and fire apparatus. The goods sold are made under the company's own brands, to its own specifications. Thirty people are employed, including six men traveling in seventeen states in the Mississippi valley and farther west. James W. Byrnes is president, Edwin Rumsey vice president, and William B. Robinson secretary.

EMPIRE RUBBER SHOE CO. BANKRUPT.

A CREDITORS' petition in bankruptcy against this company was entered November 17 in the United States district court at Providence, Rhode Island. The creditors who signed were Clarence V. N. Radcliffe (treasurer of the company), J. F. Mulvey Plumbing Co., and Woonsocket Electric Machine and Power Co. The Empire company was incorporated under New York laws May 31, 1901, and leased the rubber shoe factory of the Model Rubber Co. (Woonsocket), the operation of which by the new company began on June 10.—The Empire State Rubber Co., incorporated by the same parties, under Virginia laws in 1897, to operate the factories at Setauket, Long Island, and to deal in rubber goods generally, was not more successful. Suits brought against this corporation by parties in Setauket, to recover wages alleged to be due, in the New York Supreme court, were decided recently in favor of the plaintiffs.

CHANGES OF FACTORY SUPERINTENDENTS.

SUPERINTENDENT FREDERICK T. COMEE, of the Woonsocket Rubber Co., will devote his attention hereafter to that company's boot factory, at Millville, Massachusetts, with the assistance of his son, F. M. Comee. The company's "Alice" mill, at Woonsocket, will be in charge of John Robson, late superintendent of the Boston Rubber Shoe factory at Malden, who will be assisted by George Schlosser, who already held the position of assistant superintendent at the Alice mill.—The employés of the Alice mill, on the retirement of Superintendent Comee, united in purchasing a testimonial, in the shape of an elegant mahogany roll top desk, which he was pleasantly surprised to find at his home on returning from the factory on the evening of November 6.—Colonel F. L. Locke has been appointed superintendent of the factory at Malden, to succeed John Robson. He will be assisted by George W. Chase and John Williams.—Notice was given on November 6, at the factory of the L. Candee & Co. (New Haven, Conn.), of the resignation of Clarence G. Ames, who had been superintendent for about six years, or since Emmett A. Saunders left that position. The vacancy has been filled by the appointment of John H. Pearce, who has been assistant superintendent for several years. Mr. Ames will remain in another position.

A HOUSEWARMING AT EASTHAMPTON.

THERE was an enjoyable "housewarming" given at Easthampton, Mass., on the evening of November 15, by Mr. and Mrs. William Leonard Pitcher, in honor of Mr. Pitcher's parents, Mr. and Mrs. F. W. Pitcher, recently of Revere, but now returned to again become residents of Easthampton. The elder Mr. Pitcher, who is general manager of the Easthampton Rubber Thread Co., recently purchased a large estate in that town, in a most desirable location, and the house has been so remodeled and refitted as to make it thoroughly modern. Though the house is large, one twice as large would not have been too spacious for the many friends who gathered at this



F. W. PITCHER.

"housewarming" to welcome Mr. and Mrs. Pitcher on their return. There were also many guests from out of town, including not a few persons identified with the rubber trade. Among these were Mr. and Mrs. Henry C. Morse, Mr. and Mrs. William H. Gleason, Mr. and Mrs. E. S. Williams, Mr. and Mrs. E. B. Page, Mr. William J. Kelley, and Mr. Charles H. Arnold—all of Boston—and Mr. William H. Hillman, of New York. During the evening the guests were entertained with instrumental and vocal music. In one of the interludes an immense tin pitcher, called a "loving cup," was presented to the host and hostess. The "loving cup" was filled with little gifts of an amusing character. The host was informed that the "loving cup" was made with one handle, instead of three, because his friends wished to be hand in hand with the Pitchers. The latter part of the evening was spent in dancing. On the following day a part of twenty were entertained at breakfast by Mr. and Mrs. Joseph W. Green, Jr.—"the next door neighbors." Mr. Green, who is the manager and treasurer of the Glendale Elastic Fabrics Co. has long been an intimate friend of the Pitchers, and his stepdaughter is the wife of Mr. W. L. Pitcher, who is associated with his father in the management of the Easthampton Rubber Thread Co.

RUBBER MEN IN A CREDIT ASSOCIATION.

REFERENCE was made in the last INDIA RUBBER WORLD to the active part taken by some members of the rubber trade in the work of the New York Credit Men's Association. A letter from an official of this body expresses its objects as follows: "We are striving to better the laws between debtor and creditor; we are punishing where we can those that commit a fraud on our members, and we are striving to improve the mercantile agency service, also. In our membership we have several representative rubber houses, but I think that if you should give us a notice in your paper, referring to what we are doing, it would help us in increasing the membership in the rubber trade." Among the 425 members are the United States Rubber Co., the Revere Rubber Co., the Hodgman Rubber Co., and the Stephen Ballard Rubber Co., besides several lead pencil

companies, who consume a considerable amount of rubber, viz.: American Lead Pencil Co., Eagle Pencil Co., A. W. Faber, and Eberhard Faber. A letter addressed to the association, No. 320 Broadway, New York, will secure printed matter pointing out more fully what are the objects of the association and what has been accomplished.

ADVANCE IN LEATHER BELTING.

THE fifteenth annual meeting of the Leather Belting Manufacturers' Association was held November 12 at the Astor House, in New York. A committee appointed to report on discounts and prices, presented a new list, raising prices 19 per cent., without change of discount, which was adopted by a vote of 26 to 2, three members declining to vote. The new prices took effect immediately. P. Jewell & Co. and the Detroit Belting Co. withdrew from the association on account of this action. —New York *Shoe and Leather Reporter* says: "The prices of belting butts are higher now than they have been, except at one period, during the history of the trade. During the 'boom' of 1879 to 1881 they sold at 45 cents and 50 cents a pound. It is fair to state that hides were lower then than now. Oak belting butts, first quality, are selling now at 43 cents a pound. Last spring they sold at 36 cents. One year ago, November, 1900, the price was about the same, 36 cents, and in January, 1899, butts sold at 32 cents a pound. It is estimated that about 25,000 butts are cut weekly into belts. Our exports of belting are steadily increasing. Bark tanned leather for the transmission of power is favored in every part of the world."

Following is a comparison of list prices of leather belting in effect since November 12, 1901, and prices as fixed at the revision of November 15, 1899. The complete list is not given, but selections from it, ranging from 1 inch to 72 inches. The price is given per lineal foot, discounts being the same at both dates:

WIDTH.	Nov. 15, '99.	Nov. 12, '01.	WIDTH.	Nov. 15, '99.	Nov. 12, '01.
1 inch	\$0.14	\$0.17	15 inches	2 78	3 30
2 inches	.34	.41	20 "	3 70	4.40
3 "	.53	.64	25 "	4.63	5.50
4 "	.72	.87	30 "	5 55	6.60
5 "	.91	1.09	36 "	6 66	7.92
6 "	1.11	1.32	40 "	7 40	8.80
7 "	1.30	1.54	48 "	8.88	10 56
8 "	1.48	1.76	56 "	10.36	12.32
9 "	1.67	1.98	64 "	11.84	14.08
10 "	1.85	2 20	72 "	13.82	15.84

BETZLER & WILSON—A CORRECTION.

AN error occurred in a statement headed "Guarantee Rubber Co. (Akron, Ohio)," which appeared in the October issue of THE INDIA RUBBER WORLD [page 23]. The statement read: "This company succeeds the Betzler & Wilson Rubber Co. manufacturers of soft rubber specialties and also of the Betzler & Wilson fountain pens." As a matter of fact, the Betzler & Wilson Rubber Co. has not had anything to do with the firm of Betzler & Wilson, who continue to manufacture fountain pens at the old stand. Their pens have been improved so much as to make them second to none in quality. Consequently they are enjoying a fine trade and their up-to-date factory is as busy as ever.

FLAG RAISING AT THE APSLEY FACTORY.

THE Apsley Rubber Co. (Hudson, Mass.) have a new flag pole upon the factory grounds, 110 feet high, being the highest in that town. Work was stopped in the factory on the forenoon of November 6, that the employes might attend the flag raising ceremony, led by President L. D. Apsley, who made a patriotic address, in which he referred to the results of the political elections of the preceding day, in various parts of the country, as encouraging to the cause of public morality. The flag is of silk, 24×15 feet.

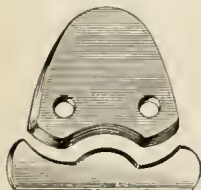
LOS ANGELES (CALIFORNIA) RUBBER CO.

THE business of this company was established some three years ago by the late J. W. Girvin, and since his death has been managed by B. J. Wheeler. It is the only rubber house in southern California. While making a specialty of rubber and leather belting, there is kept in stock a line of hose and packing, and rubber goods generally.

NEW INCORPORATIONS.

THE Connecticut Rubber Co. (Hartford), November 1, under Connecticut laws, to make and sell rubber goods; capital, \$10,000. The president and manager is *John J. Ward*, who is well known to the New England rubber trade, having traveled for the International A. and V. Tire Co., the Whitman & Barnes Manufacturing Co., and the Hartford Rubber Works Co. The secretary and treasurer, *F. W. Starr*, has been connected, for fourteen years, with the Pope Manufacturing Co., in various capacities, ranging from clerk to manager of a department. The company advise THE INDIA RUBBER WORLD that it is their intention to not only conduct a retail trade in rubber goods generally, but to enlarge their field by manufacturing and wholesaling. They already have been appointed agents for some leading rubber concerns, and have also secured some large contracts in manufacturers' supplies. The new corporation continues the business conducted since 1898 as The Connecticut Rubber Co., John J. Ward, proprietor.

=Southern Rubber Tire Co. (Knoxville, Tenn.), November 5, under Tennessee laws, to manufacture deal in vehicle tires, under a patent granted to William R. Giddeon; capital, \$50,000. Alexander McMillan, president; R. W. Williams, vice president; A. H. Martine, secretary and treasurer; W. R. Giddeon, managing director; John W. Green, attorney. A feature of this tire, which is solid and of the wired on variety, is that it has a shallower steel channel than other tires. The ordinary channel conceals about one-third of the rubber, thus wasting that much of the material so far as resiliency is concerned. There is no danger, according to the inventor, of the rubber being thrown out of the comparatively flat channel, by reason of the fluted design of the channel (illustrated in sectional outline herewith). A contract has eben awarded in New York for the manufacture of this tire.



=The Maynard Rubber Corporation (Hartford, Conn.), November 13, under Connecticut laws, to manufacture and deal in rubber goods; capital, \$5000. President, Edward W. Maynard, of Springfield, Mass. Secretary and treasurer, Justus D. Anderson, of Hartford.

TRADE NEWS NOTES.

THE Byfield Rubber Co. (Bristol, Rhode Island), early in November completed all the orders in hand for rubber footwear, at the same time working up all their raw material; paid off their help, and closed the factory indefinitely. It is believed in Byfield that the factory will not remain long closed, but the employés have been going to rubber factories elsewhere for work.

=The Fisk Rubber Co. (Chicopee Falls, Mass.) have established two more branches for the sale of their tires. One is in Boston, at No. 604 Atlantic avenue, and in charge of G. A. Campbell. The other is at No. 916 Arch street, Philadelphia, in charge of J. L. Gibney.

=The Firestone Tire and Rubber Co. (Akron, Ohio) are reported to be contemplating the establishment of a rubber factory of their own.

=The American Wringer Co. obtained a gold medal for their exhibit of "Horseshoe brand" clothes wringers at the Pan American exhibition.

=The tires of the Kelly-Springfield Rubber Tire Co. (Davenport, Iowa) are manufactured by the International Automobile and Vehicle Tire Co., at Newton Upper Falls, Mass.

=The rubber jobbing firm of Towner & Co. (Memphis, Tennessee) have favored THE INDIA RUBBER WORLD with a copy of a handsomely illustrated souvenir volume, "Memphis Illustrated," intended to represent the appearance and the business conditions of that city. A page of the book is devoted to the live Towner firm.

=The Whitman and Barnes Manufacturing Co. (Akron, Ohio) recently added to their rubber department a belting plant, at a cost of \$75,000. The company's rubber business made a splendid showing at the late annual meeting of the stockholders, and it is understood that in the near future there will be further extensions in this department, to take the place to some extent of the company's production of mower and reaper knives and wrenches, which will be transferred from the Akron factories to the factories at West Pullman.

=The Calumet Tire Rubber Co. (Chicago) have added to their line of products the "Calumet" horseshoe pad, a patented article, which is reported to be light, efficient, and cheap.

=The Consolidated Rubber Tire Co. (New York) distributed as a souvenir, at the recent carriage shows, a good pocket map of the Philippine islands, in connection with not a little commercial and historical matter of interest, relating to the islands.

=The Boston Belting Co. have favored THE INDIA RUBBER WORLD with a handsome lithograph in colors, embracing a view of their extensive factories in Boston, and also scenes on the upper Amazon, representing the first steps in the production of "Pará rubber." The lithograph comes tastefully framed, size 21×24½ inches, and no doubt copies of it will be found hereafter ornamenting the offices of the Belting company's many customers.

=Otto Meyer, No. 161 Summer street, Boston, who for several years past has been connected with the crude rubber trade, will hereafter transact business in his own name and for his own account. He has made arrangements whereby he will be the representative in New England of A. T. Morse & Co., of New York.

=The Chesapeake Rubber Co. (Baltimore, Maryland) are doing a big business in rain coats, which they are manufacturing and selling in all parts of the country.

=Jenkins Brothers, whose business embraces the Jenkins Rubber Co. (Elizabeth, New Jersey), advise THE INDIA RUBBER WORLD that they have received the following awards at the Pan American Exposition for their goods: Gold medal each for Jenkins Brothers valves and Jenkins '96 packing; two silver medals for rubber specialties.

=Morgan & Wright (Chicago), who made an attractive exhibit of tires at the recent carriage shows, distributed to their friends a souvenir in the shape of a handsome desk calendar designed for perpetual use.

=From Rochester, New Hampshire, comes a report that the president of a large rubber factory in Rhode Island has been visiting that town, with a view to removing his mill there. It is said to employ over 400 hands the year round.

=On November 15 fire broke out in one of the floors occupied by the Coöperative Rubber Co., manufacturers of mackintoshes, in a building at the corner Hanover and North Centre streets, Boston, causing a loss of several thousand dollars, part of which fell upon other tenants in the building.

=Benning & Barsalon, auctioneers, of Montreal, on October 24 held their thirty-fourth annual sale for account of the Canadian Rubber Co., of rubber boots and shoes. Over 6000 cases were disposed of, for nearly \$100,000. There were more than 300 buyers present, and prices averaged from 10 to 20 per cent. higher than at the sale last year.

=The Canadian General Electric Co., Limited (Toronto), publish a folder with illustrations of what they describe as the largest shipment of electrical apparatus ever made in Canada. A view is shown of a railway freight train, of 21 cars, carrying 646,650 pounds of material consigned to the Chambly Manufacturing Co., to be installed in their power house at Richelieu, Quebec, supplying current to the Royal Electric Co., for the city of Montreal.

=Thirty shares of the Singer Manufacturing Co., \$100 par, were sold recently at auction in New York at \$285.50 each.

=The B. F. Goodrich Co. (Akron, Ohio) issued in limited numbers last winter a souvenir picture which attracted wide attention. The supply was quickly exhausted but the demand for the reproductions of the painting, a portrait by Asti, of New York, has been such that Akron art dealers have offered fancy prices for copies of the lithos.

=A. T. Saunders, an artist, of Akron, Ohio, is the inventor of a golf ball of which much is expected. Some who have tried it say it will rival the Haskell ball, the demand for which has been almost beyond the supply this year, notwithstanding that it is probably the highest priced ball on the market. It has not been decided where or by whom the Saunders ball will be made.

=The Safety Insulated Wire and Cable Co. (New York) have been awarded a gold medal at the Pan American Exposition for their display of electric wires and cables.

=The American Tool and Machine Co., whose advertisement on another page is familiar to INDIA RUBBER WORLD readers, received a gold medal at the Pan American Exposition for an exhibit of centrifugal machinery.

=H. O. Canfield (Bridgeport, Connecticut) has acquired a piece of ground, fronting 500 feet on Staples street and 200 feet on Wood avenue, on which it is understood that he intends erecting buildings for the extension of his rubber factory, the capacity of which for some time past has been inadequate for the growth of the business.

=Hugh McCaugherty, an employé of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, while at work at a calender, met with a serious accident, and sued the company for \$10,000 damages and \$2000 for doctor's bills, etc., alleging negligence on the part of the company. The case was tried September 30, resulting in a verdict for \$2000 for the plaintiff.

=Proceedings have been brought, in the Chicago courts, to enforce the payment of a judgment entered in the English chancery high court of justice, against the Gormully & Jeffery Manufacturing Co., in favor of the North British Rubber Co. and William Erskine Bartlett, for infringement in England of the "Clincher" tire patent.

=J. C. Pierrez, of New York, who will be manager of the People's Hard Rubber Co., of Akron, Ohio, was lately in the latter town, where he stated that the company expected to have their factory in operation by the beginning of the new year.

=A fire alarm was sounded from the factory of the Canton Rubber Co. (Canton, Ohio) on the afternoon of October 30. The solution in the trough of a spreading machine had caught fire, but the flames were extinguished before much damage was done.

=The Alden Rubber Co. (Barberton, Ohio) believe in making the surroundings of their factory attractive. Ornamental vines have been set out which, by another summer, are expected to cover almost all the outer wall. The buildings overlook Lake Anna, and, thanks to a well kept lawn, and two fountains, the appearance at a short distance is that of some well cared for public institution.

=The Canadian Rubber Co. of Montreal have moved their offices from their long established address, No. 333 St. Paul street, to the corner of Papineau avenue and Notre Dame street.

=Manufacturers of golf balls say that sales this year have been the largest in the history of golf in America.

=A fire in the waterproofing department of the Canadian Rubber Co. of Montreal, on the evening of November 1, caused a loss reported at \$5000, which is covered by insurance. The fire occurred in the third story of No. 983 Notre Dame street, and was prevented by the firemen from spreading to the lower floors.

=At a recent auction sale of securities in New York 125 shares of The Celluloid Co. (\$100 par) brought 102¼ to 103.

=Progress and prosperity are evidenced in the extended accommodations which the Manufacturers' Advertising Bureau will occupy after November 1, at its old time location, No. 126 Liberty street, New York. The new offices give increased facilities, which have become necessary by the continued growth of the business done by the Bureau since its establishment in 1877. The methods of the Manufacturers' Advertising Bureau have received the endorsement of the technical press, and many representative manufacturing concerns of this country and Europe, some of which have been its clients for twenty years. Mr. Benj. R. Western, the originator and proprietor, was the pioneer in the management of a firm's newspaper work and advertising in what are generally termed the "trade journals" as a business by itself, and is a recognized authority in his special field.

=The estate of the late Samuel K. Wilson, of Trenton, New Jersey, an extensive woolen manufacturer who had many outside interests, including at one time a rubber factory—seems likely to be settled in the courts. Mr. Wilson was supposed to be very wealthy, and his will contained many bequests to charitable and benevolent institutions, but it is reported that, on account of a shrinkage in values of some of his property, the estate will not suffice to pay the debts charged against it.

=The duty on imports of rubber boots and shoes into the Australian commonwealth, under the rates which became effective on October 9, is 25 per cent. *ad valorem*.

=In the New Jersey court of chancery a decree has been entered dismissing the application of Frank A. Magowan and his brother-in-law, Dr. Robert H. Winn, of Canada, to be made parties to the suit in which 1048 shares of the old Empire Rubber Co. (Trenton) are involved. For several months they have been fighting for an equity in this stock, now in the name of General William H. Skirm, whose affairs are in litigation. It is stated that this action of the court is due to Mr. Magowan's refusal to produce testimony in substantiation of the claim, and that if Magowan and Winn come within the jurisdiction of the court, they may be arrested for contempt.

=The building erected for the Groton Rubber Co. (Poquonock Bridge, Connecticut), which failed before getting to work, has been purchased by Nelson Morgan, from the parties who held possession under a lien for lumber furnished.

=Gustave Kush, manufacturer of mechanical rubber specialties, late of No. 63 Gold street, New York, has removed to larger quarters, No. 60 Beekman street.

=The Hood Rubber Co. (East Watertown, Mass.) are reported to have made 26,400 pairs of rubber shoes during one day in November.

=The output of rubber boots at the Millville factory of the Woonsocket Rubber Co., about the middle of the month, was increased to 7000 pairs per day.

=Whitall, Tatum & Co. (New York), long established in the druggists' sundries trade, in connection with which they have been large handlers of rubber goods, in the home market and for export, have become incorporated as the Whitall-Tatum Co. The business of the house will be continued on the same lines as in the past.

THE MARKET FOR RUBBER SECURITIES.

THE transactions in shares of the United States Rubber Co. on the New York Stock Exchange since our last report have been :

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Oct. 26	210	15½	15½	700	50	50
Week ending Nov. 2	800	15	14¾	210	48¾	48
Week ending Nov. 9	1,000	15¼	15	220	48	48
Week ending Nov. 16	1,685	15¾	15	900	50	49
Week ending Nov. 23	1100	15¾	15¾	232	52	51

RUBBER GOODS MANUFACTURING CO.

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Oct. 26	13,100	29½	27½	—	—	—
Week ending Nov. 2	8,510	28¾	27	100	75	75
Week ending Nov. 9	1,000	28	26¼	—	—	—
Week ending Nov. 16	4,150	26¾	25	200	109	104½
Week ending Nov. 23	—	—	—	—	—	—

WOONSOCKET RUBBER CO.

THE South Main street property, including the original plant operated by the Woonsocket company, has been offered for sale by the United States Rubber Co. It is taxed as real estate on an assessment of \$118,700, and the knit boot plant now on the property is assessed at \$40,000 as personal property. The knit boot plant, as already reported in this journal, is to be removed to Millville, Massachusetts, and combined with the Lawrence Felting Works, under the superintendence of Robert J. Bowes, son of the late William J. Bowes, who had charge of the Lawrence mill. George C. Wetmore, general manager, and Thomas Skipper, superintendent of the knit boot factory at Woonsocket, retire from the service of the United States Rubber Co. with the closing of that mill.

CONSOLIDATION AT MILFORD.

THE Union Rubber Co. (Boston), manufacturers of mackintoshes, will remove about January 1 to Milford, Massachusetts, where they have purchased for cash factory No. 1 of the Milford Shoe Co., known also as the Shippee factory. The Milford Rubber Co., proffers of cloth, will be consolidated with the Union Rubber Co., and extensive improvements will be made in the building just bought, to accommodate the consolidated businesses.—=Manager C. B. Archer, of the Milford Rubber Co. had previously advised THE INDIA RUBBER WORLD: "As our business has outgrown our present quarters, we are contemplating a change. We expect to more than double our present capacity of 10,000 yards a day, with the very latest type of machinery to be had. Our present equipment is of the very best, but we must have more of it."—=The Union Rubber Co. is a comparatively new concern, composed of Leon

Aronson (president), Joseph Aronson, and a Mr. Goddard, and they have been notably successful thus far.

GOLD MEDAL FOR INTERLOCKING TILING.

THOSE of our readers who visited the Pan American Exposition can hardly have failed to see the exceptionally attractive display made by The New York Belting and Packing Co., Limited, a prominent feature of which was the interlocking rubber floor tiling made by this firm. A gold medal has been awarded by the judges of the exposition, for the display of tiling, which is thus shown to have been superior to any other article in this class exhibited at Buffalo. In addition the company received another gold medal and a silver medal for their exhibit at Buffalo.

THE MAHONING'S CHANGE OF NAME.

THE Mahoning Rubber Manufacturing Co. (Youngstown, Ohio) have changed their name, and will be known as the Union Rubber Co. The former name was considered too long, besides which "Mahoning" was too local, having no significance outside of Youngstown and its vicinity.

NORTH-WESTERN RUBBER CO.

THE newspapers of the Akron, Ohio, district are beginning to discuss the North-Western Rubber Co., Limited, the incorporation of which, under West Virginia laws, was reported in THE INDIA RUBBER WORLD of June 1, 1901, as an enterprise in which Akron capital is interested. The factory of this company, as already stated, is being erected near Liverpool. When Mr. O. C. Barber, of Akron—one of the largest stockholders of the Diamond Rubber Co.—sailed recently for an absence of several weeks in Europe, he declined to be interviewed by his home newspapers with regard to a report that he was going abroad on business connected with the new factory.

MR. JENKINS MAKES A CHANGE.

SILAS H. JENKINS, who is one of the best known salesmen of mackintosh goods in the United States, left for England on November 30 on the *Campania*, to buy goods for Rosenwald & Weil, of Chicago, as he has taken charge of their rain coat department. Mr. Jenkins will visit London, Paris and Berlin in the search for new and beautiful styles of spring goods. It is interesting to note in this connection how long Mr. Jenkins has been in the rubber business. In 1885 he connected himself with the Hodgman Rubber Co., travelling in the south and west from Chicago. During the last five years he has been resident manager of the New York department of the Stoughton Rubber Co. In writing THE INDIA RUBBER WORLD, Mr. Jenkins expresses his regret at leaving the rubber business after seventeen years of service. As the rain coat is considered really a mackintosh to-day, however, he can hardly be said to be out of the business, and he certainly will carry with him the good wishes of his large acquaintance.

PERSONAL MENTION.

THE retirement of Mr. H. C. Corson as vice president of The B. F. Goodrich Co. (Akron, Ohio), announced several months ago in THE INDIA RUBBER WORLD, will take effect on January 1 next. There is reported to be much speculation in Akron as to who will be his successor. Mr. Corson will retire from active business in the belief that he has made a sufficient fortune, and that he has earned a rest. The newspapers of his section have commented on the unusual fact—in America—of a man retiring voluntarily from business while still at the height of success.

=The Hon. E. S. Converse, president of the Boston Rubber Shoe Co., has contributed \$5000 toward a fund which is being raised to cancel the debt on the Young Men's Christian Association at Malden, Mass.

MR. J. O. STOKES AND OTHERS INTERVIEWED.

REALIZING that the rubber trade at large, are exceedingly interested in the new rubber shoe project, of which Mr. Joseph O. Stokes is the visible head and front, THE INDIA RUBBER WORLD secured a brief interview with him. Mr. Stokes said in substance :

"I have but little to add to the news article which you printed last month. Prior to that time, my associates and myself had been developing our project quietly and carefully, perfecting the machines and the processes, and securing patents that should protect us in every possible way. Now that that is accomplished, I am perfectly willing to give you our plans as fast as they are matured. For example, they are nearly completed for the most practical up-to-date rubber factory that can be built. The location is already decided upon, and is ideal with regard to help, water, shipping facilities, and the like. The steam and power plant will be equal to anything ever installed. The washers and mixers will be run in the usual manner, but the calendars will be operated by separate motors, so that we may have the advantage of variable speeds. The ticket at the start will be 20,000 pairs a day, but we shall build so that we can increase to 100,000 pairs, which, under the new process, is perfectly feasible. An order for 300 of our machines for this plant is already booked.

"With regard to your question as to leasing to other manufacturers, I have that matter in mind and shall take it up as soon as may be. Everything in connection with this business is to be done on a broad and liberal basis, and, while we shall safeguard our own rights and interests most jealously, we shall not ignore the interests of others.

"I have received interesting communications from manufacturers all over the United States, both in and out of the rubber shoe trade, each of which will have careful attention at an early date. I have no objection at all to keeping THE INDIA RUBBER WORLD informed of our progress from time to time, but matters are now moving so rapidly that your paper should be a daily to keep track of us."

"In this connection it is interesting to note the views of leading rubber shoe men, who have already seen the new product. Said one : "This is the only time in my life that I have known the word 'revolution' to really fit the case. It is an absolute revolution."

Said another : "It is interesting, very interesting, but as far as I can see there will be no *finesse* in this method of manufacture; that is, some parts of the shoe will call for expensive stock, others call for cheap stock, and so on. I do not see how this new shoe can accommodate itself to this need."

Still another—an exceedingly wealthy owner in a large corporation : "I have not seen the shoe, but my associates say that it cannot be lined by machinery, and we are not in the least concerned about it."

One whose company have not the fear of the Lord before their eyes said : "Our Mr. ——— told me that if the machine and process were very good, we should appropriate them, and that it would take years to settle the matter in court."

Another said : "If it has come I am glad of it, particularly if it is true that we shall be allowed to investigate with an idea of leasing. If one-half claimed for the new method can be substantiated, I stand ready to sign leases just as soon as they can be drawn up."

A PETITION of involuntary bankruptcy has been filed against F. N. Woodward & Co., rubber manufacturers, of East Water-town, Mass., by their creditors, taking precedence over the firm's application for a receiver.

"CRUDE RUBBER CONTRACTS."

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have read with much interest the article on "Crude Rubber Contracts," in your November issue, and find several items open to some criticism, though nothing of special importance, except under heading, VIII—paragraphs 2 and 3, relating to over deliveries and under deliveries, where the differences allowed are, in my opinion, too liberal.

With regard to a purchaser going into the market and buying rubber to make up a shortage (and also a non-delivery), treated under heading IX of the article referred to, the custom in the rubber trade is for the buyer to be rather easy with the seller. Usually, where a delivery is not made exactly in the time specified in the contract, the buyer is willing to wait a reasonable time for the seller to deliver, though of course he has the legal right to demand delivery in the time specified, and, failing to get the rubber, to notify the seller that he will buy it in the market, if obtainable, and charge him the difference, if any. But my experience has been that this is rarely done, and in some cases where the seller has not been able to get the goods to make good his deliveries, I have known of cash settlements being made.

A BROKER.

New York, Nov. 22, 1901.

THE RUBBER VINE OF HONDURAS.

FURTHER information regarding "A new rubber from Honduras," mentioned in THE INDIA RUBBER WORLD for November [page 40] has been supplied by Messrs. Eggers & Heinlein, the New York importers who submitted the sample of rubber in question. The firm have received from their correspondents in Honduras a letter reading in part as follows :

"We have further information about the new rubber plant, and beg to advise you that the same Mr. Floriano Davadie who is mentioned in THE INDIA RUBBER WORLD of May 1, 1901, [page 234] forwarded us the samples which we had the pleasure of sending you. It seems that the plant must be cut off in order to get out the rubber, but there are large mountains covered with this wild vine, so that large quantities might be obtained. The sticks sent you were from a plant of four or five years growth, at which age rubber may be obtained. The plant is killed, or at best will stand only a second bleeding, instead of yielding for a number of years, as in the case of the rubber tree. It is still unknown how this vine may be used in the best way to produce rubber."

The Mr. Davadie mentioned above is the governor of the district of Yoro, in Honduras, and member of a company organized last spring to exploit rubber.

IN the August INDIA RUBBER WORLD was reported the indictment of John J. Scannell, fire commissioner of New York city, and of William L. Marks, who is alleged to have enjoyed special advantages as an "agent" for the sale of fire hose and other supplies to the fire department, for defrauding the city in the matter of contracts for such supplies. On September 30 Justice Gildersleeve dismissed the indictments on a technicality, on the ground that a lawyer retained as special counsel retained by the public prosecutor was illegally in the grand jury room while the cases were being considered. Justice Gildersleeve gave permission to the district attorney to resubmit the case to the grand jury. This was done, and on November 22 new indictments were found, and the cases had been called for trial in one of the New York courts, when this paper was closed for the press.

REVIEW OF THE CRUDE RUBBER MARKET.

PARÁ sorts, after having declined from the figures quoted one month ago, until within the past ten days, have shown an upward tendency, until the level of November 1 has about been reached again. The market for some days has been very firm, in spite of continued liberal arrivals at the mouth of the Amazon, owing to the pressure to buy. Prices are stiffening at Pará, where quotations have been higher, relatively, than in the consuming markets. Thus far the receipts at Pará, for the crop year, exceed those of last year for the same months by about 2400 tons. It will be remembered that up to December 1, 1900, the receipts for the season were behind those of the preceding year, though there was an improvement later, resulting in slightly larger receipts than were ever known before. This year there are not wanting predictions that, in spite of the heavy early arrivals, the total for the year will be smaller than last year, on account of a decline yet to be experienced. This, however, remains to be seen. It is true that, for months past, a reduced output from the Upriver districts has been predicted, and so far the principal arrivals at Pará have been from the lower districts. It will be a month or so yet before it can be determined what the Upriver production may be. The arrivals of all sorts in the United States have been much larger since January 1 than during the corresponding period last year. This increase has been offset by the lessened total of net rubber imports in the United Kingdom and Germany. The English rubber industry has long since ceased to expand, and the industry in Germany has not been growing of late at the notable rate which was exhibited during three or four years past. Meanwhile the combined production of rubber other than Pará sorts—while some African districts show a decline—continues for the present to grow, and if the Pará output should not decline before the end of this crop season, it would seem that there will be rubber in plenty for all who want it.

New York quotations on November 29 were :

PARÁ.		AFRICAN.	
Islands, fine, new....	70 @80	Tongues.....	45 @46
Islands, fine, old....	81 @82	Sierra Leone, 1st quality	63 @64
Upriver, fine, new....	84 @85	Benguella.	49 @50
Upriver, fine, old....	87 @88	Cameroon ball.....	45 @46
Islands, coarse, new....	47 @48	Flake and lumps....	32 @34
Islands, coarse, old....	@48	Accra flake.....	17 @18
Upriver, coarse, new....	64 @65	Accra buttons.....	48 @49
Upriver, coarse, old....	67 @68	Accra strips.....	54 @55
Caucho (Peruvian) sheet	50 @51	Lagos buttons.....	46 @47
Caucho (Peruvian) ball	56 @57	Lagos strips.....	52 @53
CENTRALS.		Madagascar, pinky....	63 @64
Esmeralda, sausage....	54 @55	Madagascar, black....	@
Guayaquil, strip.....	50 @51	EAST INDIAN.	
Nicaragua, scrap....	54 @55	Assam.....	58 @59
Mangabeira, sheet....	40 @41	Borneo.....	36 @46

Late Pará cables quote :

Per Kilo.		Per Kilo	
Islands, fine.	4\$850	Upriver, fine.	6\$000
Islands, coarse	1\$950	Upriver, coarse.....	4\$000

Manãos advices, same date :

Upriver, fine.....	5\$000	Upriver, coarse.	3\$600
Exchange 11 1/8 d.			

NEW YORK RUBBER PRICES FOR OCTOBER (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine.	84 @90	93 @100	103 @105
Upriver, coarse	63 1/2 @66	69 @74	81 @84
Islands, fine.....	78 @85	92 @100	97 @99
Islands, coarse.....	46 1/2 @48	52 @57	61 1/2 @64
Cameta, coarse.....	48 @49	56 @58	63 @65

IN regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows :

"During November the market for commercial paper has continued just about the same as in October; city banks doing but little, and the demand being fair from out of town ones at 5 @ 5 1/2 per cent. for the best rubber names and 5 1/2 @ 6 per cent for the smaller or less known concerns."

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			PARÁ.			ENGLAND.		
	Fine and Medium.	Coarse.	Total	1901.	1900.	1899.	1901.	1900.	1899.
Stocks, September 30..	tons 449	37 =	486	450	337				
Arrivals, October.....	777	455 =	1232	1195	1126				
Aggregating.....	1226	492 =	1718	1645	1463				
Deliveries, October.....	917	456 =	1373	1066	1233				
Stocks, October 31....	309	36 =	345	579	230				
	1901.	1900.	1899.	1901.	1900.	1899.			
Stocks, September 30..	250	255	695	1025	1200	670			
Arrivals, October.....	2574	2235	2256	630	180	450			
Aggregating.....	2824	2490	2951	1655	1380	1120			
Deliveries, October....	2449	2075	2414	775	450	625			
Stocks, Oct. 31....	375	415	537	880	920	495			
World's supply, October 31.....				2960	3313	2238			
Pará receipts, July 1 to October 30.....				6682					
Pará receipts of Caucho, same dates.....				443	5419	5895			
Afloat from Pará to United States, Oct. 31..				280	429	376			
Afloat from Pará to Europe, October 31....				1080	649	663			

Para.

KANTHACK & CO. report [November 14]: "With the continuance of good demand almost all arrivals were readily disposed of, but not without sellers being compelled to make some concessions, in consequence of a fresh decline at the consuming markets. Supplies consist of about 940 tons Islands and Pará kinds, and 140 tons Upriver rubber, including a little Caucho. The crop is coming in rapidly, but the receipts cannot be expected to increase in the same proportion during the coming months, and it is likely the present excess of 1990 tons over last year's receipts will receive a check before long. The price difference between fine and coarse rubber has been reduced to 2\$500 on Islands and 1\$800 on Upriver kinds, the allowance between fine and medium remaining at 800 reis on all descriptions. The present quotations are :

Pará fine.....	69 cents against 82 1/4 cents.	} Same time last year, per pound f. o. b., not including shrinkage, freight, and insurance.
Pará coarse.....	34 3/4 " " 33 3/4 "	
Upriver fine.....	81 " " 91 "	
Upriver coarse....	55 " " 52 3/4 "	
Caucho slats.....	42 " " 42 "	
Caucho balls.....	52 " " 53 1/2 "	

"Receipts in October amounted to 2640 tons, against 2360 tons corresponding time in 1900, raising the total for the present crop season, since July 1, to 7135 tons against 5780 tons last year, and 5,890 tons in 1899. At the present date the figures are 8580 tons against 6590 tons in 1900 and 7080 tons in 1899. Exports have been :

During July.....	125 tons to America; 935 to Europe.
During August.....	562 tons to America; 745 to Europe.
During September.....	855 tons to America; 1038 to Europe.
During October.....	1165 tons to America; 1345 to Europe.
So far in November.....	1123 tons to America; 573 to Europe.

"Exchange, although fluctuating, frequently, has kept within the range of 11¼d. and 12½d., the rate closing firm at 12d. at 90 days sight on London."

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The market during the past week showed no material change, a quiet and waiting tendency prevailing along the whole line. Transactions moved within narrow bounds, which seem to have become the order of the day. But little inclination to buy was shown for fine Pará, hard cure, and fine Bolivian, spot, and small lots were taken out of the market at secret prices. Bolivian negroheads, for delivery, found ready buyers at 5.85 marks per kilogram. Mollendo was held at such high prices that no transactions took place. For the better middle sorts, and for fine to good Mozambique ball high prices were paid. Spindles and Massais received good attention. It is intended to clean out old stocks in several sorts and firm bids ought to receive good bargains. The sales were at the following prices in marks per kilogram:

Mozambique ball, finest, red.....	7.30
Mozambique ball, fine, red.....	7.00
Mozambique ball, fine, mixed.....	6.25@6.50
Mozambique ball, good.....	6.00
Mozambique ball, inferior.....	5.30@5.50
Batanga ball, genuine.....	4.05@4.10
Massai niggers, prime, red.....	6.00@6.10
Mozambique spindles.....	6.00@6.10
Ecuador scrap, fine.....	5.40@5.50
Guatemala sheet, fine.....	4.10

Hamburg, November 12, 1901.

United States Crude Rubber Imports.

[JANUARY 1 TO SEPTEMBER 30.]

FROM—	1899.	1900.	1901.
United Kingdom.....pounds	7,629,796	5,759,909	4,863,693
Germany.....	1,443,797	1,114,784	1,340,184
Other Europe.....	5,347,548	4,421,517	6,781,870
Central America.....	1,086,059	1,061,813	976,207
Mexico.....	298,347	284,975	222,028
West Indies.....	4,346	10,097	31,434
Brazil.....	21,795,955	20,430,081	24,927,390
Other South America.....	1,565,002	799,313	1,000,183
East Indies.....	765,761	569,436	315,273
Africa.....	4,106	.....	.....
Other countries.....	43,204	41,412	22,778
Total India-rubber.....	39,986,921	34,493,337	40,481,040
Gutta-percha.....	410,097	282,093	267,876
Total.....	40,397,018	34,775,430	40,748,916
Value of Rubber.....	\$24,854,785	\$21,449,246	\$20,869,070
Average per Pound.....	61.5 cents.	62.2 cents.	51.2 cents.

British Imports of India-Rubber.

[JANUARY 1 TO OCTOBER 31.]

	1899.	1900.	1901.
Imports.....pounds	41,969,200	49,291,648	42,992,768
Exports.....	28,359,968	28,022,176	27,125,280
Net imports.....	13,609,232	21,268,472	15,867,488
GUTTA PERCHA.			
Imports.....pounds	7,197,792	12,632,480	8,261,680
Exports.....	615,552	1,219,120	1,055,600
Net imports.....	6,582,240	11,413,360	7,206,080

Java Rubber.

EXPORTS of rubber from Java (including Madura) amounted in 1897 to 59,840 pounds; in 1898 to 67,728 pounds; in 1899 to 78,880 pounds; and in 1900 to 213,112 pounds.

Bordeaux.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Arrivals of Caoutchouc since our last report have been:

OCT. 15.—Via Marseilles:

Grand Bassam.....	kilos.	1,500
Soudan twists.....		3,500

Nov. 1.—Via Antwerp:

Grand Bassam.....		800
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Nov. 6.—By the *Rio Negro*:

Cassamance.....		2,800
Conakry.....		3,000
Soudan.....		5,000

Nov. 8.—By the *St. Joseph*:

Soudan.....		3,500
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Nov. 15.—By the *Richelieu*:

Cassamance.....		4,500
Soudan.....		8,000
		32,600

Some cases of yellow fever which occurred on the river Senegal during October have lessened the arrivals, on account of delay occasioned by the quarantine.

Stocks here comprise: Soudan niggers, 3500 kilograms; Soudan twists, 2000; Madagascar, 1800; Tonkin, 1200; total, 8500 kilograms. The demand has been very moderate, with a reduction in prices of about 15 centimes per kilogram. Present prices, in francs per kilogram, are:

Soudan sorts:		Cassamance sorts:	
Twists, nice, brown.....	6.95@7.	D.....	
Twists, white.....	6.80	Grand Bassam:	1.70
Twists, middle.....	6.60	Lump.....	4.70
Twists, ordinary.....	6.25@6.50	Biscuits.....	5.10
Niggers, red.....	7.50	Niggers.....	5.70
Niggers, ordinary.....	6.	Madagascar:	
Niggers, clayey.....	4.50@5.	Majunga.....	4.50@5.
Cassamance sorts:		Tamatave.....	5.
A. P.....	6.80	Niggers, middle.....	5.50@5.60
A.....	5.35	Niggers, clayey.....	3.70@4.
A. M.....	4.60	Tonkin, red.....	5.75@6.
B.....	3.60	Tonkin, black.....	6.50
D. C.....	3.	New Caledonia.....	8.15

Bordeaux, November 14, 1901.

P. CHAUMEL.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The sale of rubber which took place October 31 had a satisfactory result, in spite of the lower quotations for Pará sorts in the English markets. About the whole quantity was sold, viz.: 427 out of 445 tons. Prices show little change on brokers' valuations; that is, there has been no change since the September sale. An advance of 25 to 50 centimes was paid for 41 tons of Aruwimi, and for 42 tons Uelé strips (Upper Congo). Other sorts maintained their prices. Actual stocks, 285 tons, besides the fresh arrivals per the steamer *Albertville*, from the Congo, of about 350 tons.

Antwerp, November 2, 1901.

C. SCHMID & CO.

ANTWERP RUBBER STATISTICS FOR OCTOBER.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stock, Sept. 30. Kilos	896,143	1,004,762	307,482	226,874	257,349
Arrivals October....	234,635	470,028	304,046	166,467	165,384
Congo sorts.....	191,178	431,917	166,821	142,086	159,637
Other sorts.....	43,457	38,111	138,225	24,381	5,747
Aggregating....	1,130,778	1,474,790	612,425	393,341	422,733
Sales October.....	864,673	565,743	463,690	158,690	148,323
Stocks, Oct. 31.	266,105	904,047	148,738	234,651	274,410
Arrivals since Jan. 1	4,960,761	5,054,496	2,933,333	1,581,946	1,481,169
Congo sorts.....	4,574,034	4,298,062	2,491,590	1,347,757	1,377,984
Other sorts.....	386,727	756,434	441,743	234,189	103,185
Sales since Jan. 1 ..	5,308,605	4,437,440	3,047,935	1,441,758	1,346,387

ARRIVALS AT ANTWERP.

NOVEMBER 4.—By the *Albertville*, from the Congo: Bunge & Co. (Domaine privé Etat du Congo)..kilos. 207,000
Bunge & Co. (Société Anversoise)..... 7,858
Bunge & Co. (Comité Spécial Katanga).... 440

Bunge & Co. (Société Isanghi).....	10,312	
Société A B I R.....	88,000	
Ch. Dethier (Société Belgika).....	1,000	
Comptoir Commercial Congolais.....	11,600	
Crédit Commercial Congolais (La Lulonga).....	2,954	
M. S. Cols (Société Equatoriale Congolaise).....	4,874	
M. S. Cols (Produits Vegetaux du Kassai).....	10,000	
M. S. Cols. (Société Lubefn).....	1,500	
M. S. Cols (Société Ikelemba).....	1,063	
Société Coloniale Anversoise (Belge du Haut Congo).....	10,000	
Soc. Coloniale Anversoise (Cie. des Mag. Generaux).....	1,000	
W. Mallinckrodt & Co. (Alimaienne).....	10,000	367,601

[Arrivals by same steamer, November 6, 1900—136,550 kilograms.]

London.

JACKSON & TILL, under date of November 1, report stocks:

	1901.	1900.	1899.
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	137	209	166
{ Assam and Rangoon.....	77	32	33
{ Other sorts.....	477	690	406
Total.....	691	931	605
LIVERPOOL { Pará.....	876	927	490
{ Other sorts.....	1035	1182	765
Total, United Kingdom.....	2602	3049	1860
Total, October 1.....	2802	2846	1831
Total, September 1.....	2736	3170	1988
Total, August 1.....	2944	3645	1878
Total, July 1.....	3128	3653	2247
Total, June 1.....	3502	3624	2510
Total, May 1.....	3397	3952	2129

PRICES PAID DURING OCTOBER.

	1901.	1900.	1899.
Pará fine.....	3/4 1/2 @ 3/7 3/4	3/11 1/2 @ 4/2 1/2	{ a 4/2 @ 4/3 b 4/4 @ 4/5
Negroheads, Islands.....	No sales.	2/3 @ 2/3 3/8	2/7
Do scrappy.....	2/8	2/11 @ 3/1	3/5 @ 3/5 3/4
Bolivian.....	3/7 @ 3/8	No sales.	4/4 1/2 @ 4/5

(a) Islands. (b) Hard. (c) Old.

Liverpool.

WILLIAM WRIGHT & Co. report [November 1]: "Fine Pará. —There has been a fair demand both spot and forward, but with a continued liberal supply of receipts, prices have declined, especially for Islands grades. The demand of the other side [United States] continues strong and active, especially for Upriver, and prices there are still considerably above those

ruling here. Our own opinion is that rates for spot and near at hand are being depressed with a view to buying further ahead. This is, we think, borne out by the fact that while there are sellers of November-December 3s. 6 1/2 d., there are buyers of January-February at the price. - - - *Entrefine*—A good demand for Upriver, with little offering; no sellers under 3s. 5d; Islands sellers at 3s. 3 1/2 d. *Negroheads*—Supplies of Scrappy are small, with buyers at 2s. 8d., sellers 2s. 8 1/2 d. *Cametá* in fair request at current rates. *Maniçoba* in steady request, but supplies are plentiful; closing quotations 2s. 3 3/4 d. *Peruvian*—Demand good and prices remain very steady. Buyers of Ball 2s. 5 1/2 d.; sellers 2s. 6d. Slab steady at 2s. 1d. Supplies for the next few months will be small."

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

October 29.—By the steamer *Fluminense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
A. T. Morse & Co.....	123,200	24,300	77,200	5,700=	230,400
New York Commercial Co.	116,500	36,300	42,400	5,500=	200,700
Reimers & Co.....	74,400	36,400	49,300	.....=	160,100
Crude Rubber Co.....	61,500	19,400	7,000	900=	88,800
Boston Rubber Shoe Co..	.....	.....	.....	7,500=	7,500
Total.....	375,600	116,400	175,900	19,600=	687,500

November 11.—By the steamer *Gregory*, from Manáos and Pará:

A. T. Morse & Co.....	95,700	25,200	73,200	600=	194,700
New York Commercial Co.	88,200	21,500	39,100	.....=	148,800
Reimers & Co.....	48,500	16,500	43,700	300=	109,000
Crude Rubber Co.....	63,500	12,600	8,300	.....=	84,400
Boston Rubber Shoe Co..	18,700	1,900	25,300	.....=	45,900
Total.....	314,600	77,700	189,600	900=	582,800

November 22.—By the steamer *Maranhense*, from Manáos and Pará:

A. T. Morse & Co.....	180,000	48,000	125,100	11,300=	364,400
Crude Rubber Co.....	200,800	23,100	48,300	4,500=	276,700
New York Commercial Co.	123,400	31,900	63,300	800=	219,400
Reimers & Co.....	128,900	39,700	31,900	2,500=	203,000
Boston Rubber Shoe Co..	37,400	2,200	29,700	9,300=	78,600
Joseph Banigan Rubber Co.	.....	.....	.....	7,500=	7,500
L. Hagenaeers & Co.....	3,600	.....	1,100	.....=	4,700
New York and Java Trading Co.....	4,100	.....	500	.....=	4,600
Total.....	678,200	144,900	299,900	35,900=	1,158,900

[NOTE.—The steamer *Grangense*, from Pará, with 560 tons of rubber aboard, arrived at New York on November 27.]

PARA RUBBER VIA EUROPE.

	POUNDS.	
Oct. 25.—By the <i>Germanic</i> =Liverpool:		
Reimers & Co. (Fine and Medium).....	22,500	
Reimers & Co. (Coarse).....	9,000	31,500
Oct. 26.—By the <i>Campania</i> =Liverpool:		
Reimers & Co. (Fine).....	28,000	
Reimers & Co. (Coarse).....	2,500	
George A. Alden & Co. (Fine).....	5,700	
Crude Rubber Co. (Fine).....	5,500	41,700
Nov. 1.—By the <i>Majestic</i> =Liverpool:		
George A. Alden & Co. (Fine).....	9,700	
Crude Rubber Co. (Fine).....	9,700	
Reimers & Co. (Fine).....	4,500	23,900
Nov. 6.—By the <i>Oceante</i> =Liverpool:		
Reimers & Co. (Fine).....	14,400	
George A. Alden & Co. (Fine).....	11,300	
Crude Rubber Co. (Fine).....	11,200	
Kraunisch & Co. (Coarse).....	4,500	41,400
Nov. 9.—By the <i>Lucania</i> =Liverpool:		
Reimers & Co. (Fine).....	43,000	
Nov. 22.—By the <i>Germanic</i> =Liverpool:		
Reimers & Co. (Caucho).....	4,500	
Ideal Rubber Co. (Fine).....	2,200	6,700

OTHER ARRIVALS AT NEW YORK

	POUNDS.	
Oct. 25.—By <i>El Monte</i> =New Orleans:		
A. T. Morse & Co.....	12,000	
Eggers & Heinlein.....	1,000	13,000

CENTRALS—Continued.

Oct. 25.—By the <i>Pennsylvania</i> =Hamburg:		
Reimers & Co.....	21,600	
Livesey & Co.....	1,000	
George A. Alden & Co.....	4,000	26,600
Oct. 26.—By the <i>Esperanza</i> =Mexico:		
Graham, Hockley & Co.....	6,500	
Thebaud Brothers.....	1,700	8,200
Oct. 29.—By the <i>Alliance</i> =Colon:		
G. Amsinck & Co.....	14,600	
Hirzel, Feltman & Co.....	8,500	
A. Santos & Co.....	7,000	
Flint, Eddy & Co.....	4,500	
Crude Rubber Co.....	3,400	
Roldan & Van Sickle.....	2,200	
Gillespie Bros. & Co.....	2,500	
Kunhardt & Co.....	2,200	
Samper & Co.....	1,500	
Dumarest & Co.....	1,200	
Lawrence Johnson & Co.....	1,000	
A. P. Strout.....	400	
T. N. Morgan.....	200	
Lannan & Kemp.....	100	49,300
Nov. 1.—By <i>Pennsylvania RR</i> =New Orleans:		
G. Amsinck & Co.....	4,000	
R. G. Barthold.....	700	
Jimenez & Escobar.....	300	5,000
Nov. 2.—By the <i>Bellaura</i> =Pernambuco:		
J. H. Rassbach & Bros.....	800	
Herbst Brothers.....	1,900	2,700
Nov. 4.—By the <i>Seneca</i> =Mexico:		
H. Marquardt & Co.....	1,500	
Graham, Hockley & Co.....	1,000	
P. Harmony's Nephews Co.....	1,000	

CENTRALS—Continued.

L. N. Chemedlin.....	500	
Flint, Eddy & Co.....	500	
E. Steiger & Co.....	200	4,700
Nov. 4.—By the <i>Capac</i> =Mollendo:		
New York Commercial Co.....		17,500
Nov. 6.—By the <i>Finance</i> =Colon:		
A. Santos & Co.....	8,400	
Frame, Alston & Co.....	6,800	
Isaac Brandon & Bros.....	4,800	
Hirzel, Feltman & Co.....	2,700	
Dumarest & Co.....	1,200	
W. R. Grace & Co.....	600	
G. Amsinck & Co.....	300	24,800
Nov. 6.—By the <i>Athos</i> =Greytown:		
A. P. Strout.....	5,000	
A. D. Straus & Co.....	1,500	
G. Amsinck & Co.....	1,500	
Kunhardt & Co.....	1,200	9,200
Nov. 8.—By <i>El Valle</i> =New Orleans:		
A. T. Morse & Co.....	2,500	
For Europe.....	2,500	
Eggers & Heinlein.....	300	6,300
Nov. 11.—By the <i>Phanicia</i> =Hamburg:		
Reimers & Co.....	2,000	
J. A. Paul & Co.....	1,000	3,000
Nov. 11.—By the <i>Proteus</i> =New Orleans:		
A. T. Morse & Co.....	6,300	
A. N. Rotholz.....	1,500	7,800
Nov. 13.—By the <i>Orizaba</i> =Colon:		
Hirzel, Feltman & Co.....	20,700	
Roldan & Van Sickle.....	1,700	

CENTRALS—Continued.

G. Amsinck & Co	2,600	
Samper & Co	1,700	
D. A. De Lima & Co	1,500	
Lawrence Johnson & Co	900	
Everett, Heaney & Co	700	
A. D. Straus & Co	500	
W. R. Grace & Co	200	30,500
Nov. 18.—By the <i>Seguranca</i> =Mexico:		
For Europe	4,000	
E. Steiger & Co	1,500	
H. Marquardt & Co	500	
H. W. Prabody & Co	300	
Fred. Probst & Co	200	6,500
Nov. 19.—By the <i>Bellanoeh</i> =Bahia:		
J. H. Roszbach & Bros	35,000	
Herbst Brothers	7,500	
Eilenhorst & Co	1,000	43,500
Nov. 19.—By the <i>Alleghany</i> =Greytown:		
A. P. Strout	4,500	
Andreas & Co	3,000	
G. Amsinck & Co	1,000	
Lawrence Johnson & Co	2,000	
Kunhardt & Co	1,000	
Jimenez & Escobar	2,000	
Crude Rubber Co	3,300	
Eggers & Heinlein	1,000	
Saline & Elias	500	19,000
Nov. 22.—By the <i>El Sud</i> =New Orleans:		
For Europe	5,500	
A. T. Morse & Co	2,500	
Middleton & Co	300	
A. N. Rotholz	1,900	10,200
AFRICANS.		
Oct. 25.—By the <i>Pennsylvania</i> =Hamburg:		
A. T. Morse & Co	45,000	
Livesey & Co	32,000	
Robinson & Tallman	10,000	
George A. Alden & Co	5,000	92,000
Oct. 25.—By the <i>Germanic</i> =Liverpool:		
A. T. Morse & Co	32,000	
Joseph Cantor	11,600	
Crude Rubber Co	1,500	
George A. Alden & Co	1,000	46,000
Oct. 26.—By the <i>Campania</i> =Liverpool:		
Livesey & Co	23,500	
George A. Alden & Co	11,500	
Crude Rubber Co	11,000	
Reimers & Co	11,000	67,000
Oct. 29.—By the <i>Friesland</i> =Antwerp:		
Crude Rubber Co	160,000	
George A. Alden & Co	155,000	
For Boston, etc	70,000	385,000
Nov. 1.—By the <i>Majestic</i> =Liverpool:		
George A. Alden & Co	17,000	
Crude Rubber Co	16,800	
Joseph Cantor	2,500	38,000
Nov. 2.—By the <i>Pretoria</i> =Hamburg:		
George A. Alden & Co	26,000	
Livesey & Co	5,000	31,000
Nov. 4.—By the <i>Umbria</i> =Liverpool:		
Reimers & Co	12,000	
Nov. 4.—By the <i>Umbria</i> =Liverpool:		
Reimers & Co. (Almeida)	2,000	
Nov. 4.—By the <i>St. Louis</i> =Southampton:		
George A. Alden & Co	8,500	
Crude Rubber Co	5,000	11,000

CENTRALS—Continued.

Nov. 6.—By the <i>Southwark</i> =Antwerp:		
George A. Alden & Co	86,000	
Crude Rubber Co	85,000	
For Boston	3,500	174,500
Nov. 6.—By the <i>Oceana</i> =Liverpool:		
George A. Alden & Co	6,500	
Nov. 9.—By the <i>Lucana</i> =Liverpool:		
George A. Alden & Co	28,000	
Livesey & Co	11,500	
Crude Rubber Co	5,500	
Mark Hydes & Co	45,000	
Nov. 11.—By the <i>Phanteta</i> =Hamburg:		
Reimers & Co	5,000	
Nov. 12.—By the <i>Vaderland</i> =Antwerp:		
George A. Alden & Co	30,000	
Crude Rubber Co	30,000	
A. T. Morse & Co	6,500	66,500
Nov. 14.—By the <i>Teutonic</i> =Liverpool:		
Livesey & Co	9,500	
Reimers & Co	2,000	11,500
Nov. 16.—By the <i>Etruria</i> =Liverpool:		
George A. Alden & Co	6,500	
Crude Rubber Co	6,000	
Livesey & Co	3,000	14,500
Nov. 18.—By the <i>Patricia</i> =Hamburg:		
Livesey & Co	45,000	
Robinson & Tallman	12,500	
Reimers & Co	5,500	63,000
Nov. 18.—By the <i>Stotendam</i> =Rotterdam:		
Reimers & Co	18,000	
A. T. Morse & Co	11,000	29,000
Nov. 22.—By the <i>Germanic</i> =Liverpool:		
Robinson & Tallman	28,000	
A. T. Morse & Co	22,500	
George A. Alden & Co	17,000	
Crude Rubber Co	6,000	73,500
Nov. 20.—By the <i>Haverford</i> =Antwerp:		
Crude Rubber Co	280,000	
George A. Alden & Co	210,000	
A. T. Morse & Co	90,000	
Reimers & Co	31,000	
Livesey & Co	8,000	
For Boston	90,000	719,000
Nov. 23.—By the <i>Graf Waldersee</i> =Hamburg:		
George A. Alden & Co	21,000	
Wm. Wright & Co	9,000	
Robinson & Tallman	3,500	33,500
EAST INDIAN.		
Nov. 9.—By the <i>Philadelphia</i> =Southampton:		
Reimers & Co	1,600	
Nov. 23.—By the <i>Jupiter</i> =Singapore:		
Reimers & Co	25,000	
PONTIANAK.		
Nov. 6.—By the <i>Heathburn</i> =Singapore:		
George A. Alden & Co	300,000	
Robinson & Tallman	185,000	
Reimers & Co	60,000	535,000
Nov. 18.—By the <i>Arogonia</i> =Singapore:		
George A. Alden & Co	155,000	
Robinson & Tallman	40,000	195,000
Nov. 23.—By the <i>Jupiter</i> =Singapore:		
Reimers & Co	125,000	
George A. Alden & Co	100,000	
Robert Brass & Co	155,000	380,005

GUTTA-PERCHA AND BALATA.

Nov. 11.—By the <i>Phanteta</i> =Hamburg:		
Robert Soltau & Co	11,500	
Nov. 18.—By the <i>Minnehaha</i> =London:		
Spaulding Manufacturing Co	2,500	
BALATA.		
Oct. 28.—By the <i>Prins Willem I</i> =Trinidad:		
George A. Alden & Co	1,500	
Thebaud Brothers	500	2,000
Oct. 26.—By the <i>Laurentian</i> =Glasgow:		
Earle Brothers	2,500	

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—OCTOBER.		
Imports:		
India-rubber	4,497,437	\$2,234,374
Gutta-percha	33,447	23,332
Gutta-jelatang (Pontianak)	1,147,632	35,061
Total	5,678,516	\$2,312,767
Exports:		
India-rubber	55,074	\$33,802
Reclaimed rubber	73,396	11,346
Rubber Scrap Imported	1,303,732	\$70,801

BOSTON ARRIVALS.

OCT. 12.—By the <i>Vaderland</i> =Antwerp:		
George A. Alden & Co.—African	43,800	
[Included in arrivals at New York, Oct. 7.]		
OCT. 21.—By the <i>Michigan</i> =Liverpool:		
George A. Alden & Co.—Caucho	8,995	
Crude Rubber Co.—Caucho	6,890	
Livesey & Co.—African	4,621	20,506
OCT. 23.—By the <i>Cestrian</i> =Liverpool:		
Robinson & Tallman.—African	8,546	
OCT. 24.—By the <i>Saxonia</i> =Liverpool:		
Livesey & Co.—African	1,923	
OCT. 29.—By the <i>Winifredian</i> =Liverpool:		
Reimers & Co.—African	3,821	
George A. Alden & Co.—Central	3,847	
Livesey & Co.—African	8,279	15,947
Total	90,725	
[Value, \$46,133]		

GUTTA-PERCHA.

OCT. 6.—By the <i>Utonia</i> =Liverpool:		
George A. Alden & Co	152	
OCT. 8.—By the <i>Anglian</i> =London:		
George A. Alden & Co	3,647	
OCT. 14.—By the <i>Bostonian</i> =London:		
C. H. Arnold & Co	8,535	
George A. Alden & Co	793	9,328
OCT. 22.—By the <i>Cambrian</i> =London:		
C. H. Arnold & Co	5,136	
OCT. 28.—By the <i>Columbian</i> =London:		
George A. Alden & Co	4,520	
Total	22,783	
[Value, \$43,635]		

OCTOBER EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Frank da Costa & Co	63,546	14,036	140,710	2,100	220,452	176,224	19,038	89,184	2,250	286,696	507,148
Adelbert H. Alden	160,085	40,915	93,379	1,591	295,970	38,010	6,290	5,270	—	49,570	345,540
Chok, Prusse & Co	23,606	5,300	31,257	—	60,163	176,800	20,740	25,000	—	222,540	282,703
Neale & Staats	—	—	13,440	—	13,440	67,630	5,610	2,430	1,670	77,340	90,780
Denis Crouan & Co	4,590	510	11,130	—	16,230	45,038	7,595	7,510	—	60,143	76,373
Kanthack & Co	2,210	342	1,866	—	4,418	5,415	1,488	2,988	—	9,891	14,309
The Sears Para Rubber Co	5,440	340	1,750	—	7,530	—	—	—	—	—	7,530
R. Suarez & Co	—	—	—	—	—	3,607	954	1,606	—	6,167	6,167
Pires, Teixeira & Co	1,142	35	225	—	1,402	—	—	—	—	—	1,402
Direct from Iquitos	—	—	—	—	—	95,132	7,233	32,777	39,881	175,023	175,023
Direct from Manaos	341,950	106,186	83,811	13,170	545,117	321,966	89,210	40,661	6,274	458,111	1,003,228
Total for October	602,569	167,724	377,568	16,861	1,164,722	929,822	158,158	207,426	50,075	1,345,481	2,510,203



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THE "GRAND (FACTORY) TOUR."

YEARS ago the education of no young man was considered complete until he had taken the "grand tour." In this visiting of foreign countries he was supposed to lose his narrow views, and to broaden out into a polished, fair minded, all-round gentleman, fitted to adorn polite society and able to devote his life to the art of entertaining or being entertained,—the then recognized chief end of man. To-day, with everything in life industrialized, the grand tour is still taken, and is still of great value, but its pathway leads not through parlor, rout, or boudoir, but through store, agency, and factory. It is surprising and gratifying to notice how many young men, sons or relatives of foreign manufacturers, visit other countries to meet the leaders in the trade. In the rubber trade, for example, during the year past, a round dozen of young men who expect some day to be at the heads of rubber companies in England, Germany, and other European countries, have come to the United States provided with letters of introduction and have visited many rubber factories, extending always an invitation to those who entertain them to visit their works in turn. Few of those visits are returned, however. Perhaps in part it is because we are too busy to attend to it, but really because we are apt to feel that here we have the best and that the foreigner can teach us nothing. In business, however, as in all else, self-satisfaction is the end of progress. It shuts one's eyes most effectually to what is patent to all the world beside. A sign of breadth of view and of an appreciation of the business as a whole will be the acceptance of invitations to go abroad, visit factories when it is permitted, and a friendly exchange of opinions, processes, and compounds—in fact about everything that is in the common interest. Granted that the envoy sent be young, capable, energetic, such a trip will add to his value to his employers many times the cost of the trip.

RUBBER AND SOME OTHER CROPS.

JUST now, when American seedsmen and nurserymen are distributing their trade catalogues for the new year, there comes to us from Ceylon a list of seeds and plants which, although extensive and varied, scarcely embraces one species suited for planting in our colder latitude. The vulgar names of these plants are familiar everywhere, but their produce is such as would, in the United States or Europe, be looked for at the grocer's, or the chemist's—or almost anywhere else than on a nearby farm. Such things are included as coffee, tea, cacao, vanilla, pepper, cinnamon, pineapples, cinchona, and the like. The yield of these tropical staple crops now has a commercial value of hundreds of millions of dollars annually, the greater part of which has been the result of modern development in agriculture.

The Ceylon catalogue referred to has come to include also various species of India-rubber and Gutta-percha, no longer as curious novelties, but for planting on a large scale for their economic value. In one sense every page

of it may be regarded as an argument for rubber planting, though issued with no such apparent intent. Not only is there hope, in the history of the domestication of these other tropical species of plant growth, that corresponding success may be attained in rubber cultivation, but positive encouragement has resulted from experiments with rubber itself. It appears advisable at least to plant any rubber producing species of value, in the countries to which it is indigenous, as for instance, the *Castilloa elastica* in Mexico.

Another idea suggested by this list of tropical plants—the cultivation of many of which has been confined to the Eastern hemisphere—is that they might be grown profitably in corresponding latitudes in the new world. Coffee succeeds in Mexico, as do cacao, vanilla, and pineapples. Why should not many or all the other tropical plants of economic value? The years required for rubber trees to become productive are, at least to American ways of thinking, a long time to have capital tied up without yielding a return, and doubtless the practice of planting “short crops” in connection with rubber, to afford a quicker income, will become general. Besides, many planters of rubber on this continent already have shown a preference for diversified crops, over having “all their eggs in one basket.”

For these several reasons, a study of tropical planting in general ought to be of interest to the great number of persons, of large and small means, who are investing in rubber and coffee culture in Mexico. Such an interest would be promoted, and the whole foreign planting element in Mexico ought to be benefited, by the establishment in that country of such an agricultural experiment station as has been suggested of late by Mr. James C. Harvey, a rubber planter in the state of Vera Cruz whose name is familiar to INDIA RUBBER WORLD readers.

THE AMERICAN “WONDER MACHINE.”

FACTS may be ignored, misunderstood, argued out of existence, apparently annihilated, but they still remain. THE INDIA RUBBER WORLD believes the new rubber shoe machine to be a fact. The *Gummi-Zeitung* does not believe it. To sum up its conclusions, published at length in another column, they are about as follows:

- “It is doubtful.”
- “It is impossible.”
- “It is possible.”
- “It cannot be done.”
- “It has not been done.”
- “Let us watch and wait.”

It is but fair to our esteemed contemporary to acknowledge that the subject has been treated by it with courtesy, good nature, and honesty, an attitude contagious to the last degree, and it is in the same spirit that this brief answer is indited.

The “wonder machine” was not mentioned by us with the wish to alarm any one. It was news matter pure and simple, of present and paramount interest. Changes in manufacture, in machinery, in product, have always been announced in THE INDIA RUBBER WORLD as early as it was possible to get the facts, and this in the interest of all

concerned. Such facts are always carefully verified and are not published until that is done. If the “American cousin” is an incorrigible optimist, is not the German cousin an equally incorrigible pessimist? And while he may often have been wise in “keeping out of some “unlucky inventions” and “revolutionizing improvements,” has he not lost much by an inability to discriminate between the unreal and the real, the lucky and the unlucky?

There is no question that the Americans in the past have praised the hand made rubber shoes—extolled their fit and beauty, boasted of their factory methods, etc. And well they might, for they were the best as compared with all others, the proof of this being that the whole world imitated them. But is it necessary to point out that excellence is only a comparative term? Gutenberg’s printing press turned out “beautiful” work at a speed that paralyzed the copyists, and that won the most extravagant praise from all, but beside modern press work how do his books stand to day? From a typographical standpoint are they not “abortions”? Or to bring the comparison into our own trade and times, take the old fashioned rubber belt, made wholly by hand, cured in open steam; was it not advertised as a marvel? Would it sell to-day by the side of the product that comes from the belt machine, the belt press, and the hydraulic stretcher? Would it not be termed a relic of the middle ages?

If the rubber shoe manufacture of Europe is perfectly satisfactory to the *Gummi-Zeitung*, it certainly is not to those who have their capital invested in it, for nearly every company beyond the Atlantic has written to THE INDIA RUBBER WORLD, showing the most profound interest and asking for further information.

In spite of the fact that, in the first part of the article under consideration, the *Gummi-Zeitung* doubts that such a “wonder machine” exists, it acknowledges further along that it is possible that it produces a cheaper shoe of more pleasing appearance, but says it cannot have the durability of those that are hand made. Yet the fact is that on the testing machine the machine made shoes have proved far more durable than the hand made, even when made of cheaper stock. Suppose for the sake of argument, however, that the same compounds be used in each, would not a more beautiful, cheaper, and more valuable product be the result, and is not that demonstrable with mathematical precision? Again, the suggestion that the hand made shoe will possess more solidity than one made by machinery is in direct contradiction of practical experience in the use of plastic materials. It should be patent to any one familiar with rubber manufacture that the pressure of the hand roller applied by man, woman, or boy, cannot anywhere equal mechanical pressure such as can be exercised by machine. Nor will the hand work be as thoroughly welded and as homogeneous as the machine work. This is proved in hundreds of instances in every day rubber manufacture.

Further, our contemporary gathers that in the new process the rubber is “sprayed” on, or “softened” beforehand, and then subjected to the cold cure. In this he is so far astray that we would suggest that he read our arti-

cle once again and see if every statement does not point to vulcanization by heat. To be plain, the rubber is not sprayed on, it is not softened, except on the mixing mill or calender, and it is not cold cured or vapor cured; hence the point made that cold cured goods are less durable than heat cured is entirely foreign in this discussion.

The citation of failure regarding the "revolution in the machinery for tire making" is peculiarly apt, for after the most searching and exhaustive tests those same revolutionary machines are now being shipped to Europe and will shortly be in use in England, France, Germany, and Russia.

With regard to German patents "issued to Mr. Joseph O. Stokes" there is another misunderstanding. The gentleman named, as far as we know, is not the patentee here or abroad. He is rather the visible and active head of a syndicate that controls the United States patents. THE INDIA RUBBER WORLD has been promised early information concerning patents for machinery and processes, both in the United States and Europe, and as soon as that is secured will gladly forward to its friends in Germany the information that they are seeking.

Our esteemed contemporary's position reminds us of an anecdote. Once upon a time a man was arrested and put in jail. As soon as possible he sent for his lawyer, who, standing outside of his cell, heard his story, and then exclaimed, "Why they can't put you in jail for that!"

"But," said the other, "whether they can or not, I'm here."

The Shoe Machine is here.

THE INFLUENCE OF SUGGESTION.

SO many large and enterprising manufacturers, both in and out of the rubber trade, have made a special feature of their own fire brigades, furnishing them with comfortable quarters, drilling them, and showing them off to visitors, that it is a bit of a surprise to find that the insurance experts do not look upon them as an unmixed good. According to their statistics, there is a tendency toward unaccountable fires where such organizations are existent, rather than where they are absent. The reason for this is given that their presence suggests to the evil minded and to the irresponsible lovers of excitement the desirability of occasional conflagrations. The experts, therefore, are pronounced in their belief that it is better to rely upon brick walls, tinned doors, cleanliness, sprinklers, and a good outside fire department.

COINCIDENT FACTS OF INTEREST are that the exports of American rubber footwear are increasing rapidly and that the range of heavy snowfall in Europe appears of late years to be widening. Perhaps after awhile it will not matter much to our rubber manufacturers where snow falls—they will supply the needed rubbers just the same.

THE FIRST AMERICAN PACIFIC CABLE is being manufactured abroad, but already an order had been placed with an American factory for 472 miles of submarine cable, by a foreign government. In view of the successful working of greater lengths

of deep sea cable than this, supplied by each of two American factories, it seems reasonable to expect that the cable industry will yet become established on an important scale on this side of the Atlantic.

NOTHING REFLECTS GENERAL INDUSTRIAL PROSPERITY more truly than the condition of the belting business. It is of more than passing interest, therefore, to note that of late almost all of the large manufacturers of both rubber and cotton belting have been forced to run their plants up to their limit, and it is also probable that more large belt presses have been installed during 1901 than in any other single year. Rubber belting to-day is made so well and is so generally useful that it is crowding leather belting very hard. Indeed, one rubber manufacturer predicted recently that the time will come when leather belting will be seen as rarely as leather hose.

THE CHARTER OF THE ATLANTIC RUBBER SHOE CO., mentioned in another column, marks an era in the incorporation of stock companies. It is a radical departure from all previous charters in that it not only more fully recognizes the rights of the stockholder, but gives to him the fullest information concerning the condition of the company of which he is a part owner. That the new company is a trust, or that it is formed to amalgamate existing rubber shoe companies, or fight the "Rubber Trust," is pointedly denied by the incorporators.

OUR FRIENDS OF THE LONDON *India-Rubber Journal* take to heart too seriously our failure to view through spectacles as optimistic as their own the prospects of a new Bolivian rubber exploiting enterprise which, in other channels more than in our contemporary's columns, has been treated as a coming great "monopoly." Our own treatment of the matter was to deprecate any idea of a monopoly being possible in the quarter referred to. Besides, it is difficult to treat seriously any article which drags in the "Rubber Trust" as a factor in any development in rubber, whether in forest or factory. No other journal has devoted more space than THE INDIA RUBBER WORLD to the rubber resources of Bolivia, and no other journal has contained so much definite information on this subject. Bolivia undoubtedly contains a wealth of rubber, and no supplies of good rubber can be too remote for their exploitation ultimately, when the more available supplies have become inadequate for the demand. But these considerations are not new to our capitalists, and we yet fail to see any reason, in current developments, for manufacturers to begin to figure on lower priced fine rubber from Bolivia in the near future.

TO IMPROVE CONAKRY RUBBERS.

IN view of the depreciation which has been evident for some time past in the quality, and consequently in the selling price, of rubber coming from French Guinea, the commission of commerce and agriculture of that colony has adopted some regulations which appear in the *Bulletin de la Société d'Etudes Coloniales*. The adulteration of rubber is prohibited after August 1, 1901. Adulterated rubbers are such as are weighted with water, or obtained from roots, or such as contain glue or any other foreign substance, apart from particles of bark that may have become mixed with the rubber in coagulation, not to exceed the proportion of 1 per cent. of the total weight. The customs officials are charged with the enforcement of these regulations. It is hoped that, by this means, the Conakry rubbers will regain the reputation which they enjoyed formerly in the European markets.

GUTTA-PERCHA IN THE PHILIPPINES.

THE letter on this subject by Mr. F. J. Dunleavy, of Catobatto, island of Mindanao, which appeared in THE INDIA RUBBER WORLD of November 1, is confirmed in its more important details by the report of the United States Philippines Commission to the secretary of war, for the period from December 1, 1900, to October 15, 1901. Mr. Dunleavy stated that considerable quantities of Gutta-percha were being exported surreptitiously by Chinese traders from the port of Jolo to Singapore. The point of chief interest was not that the government was being defrauded of revenue—for that abuse was capable of being checked—but that the extent of the shipments indicated the existence of important quantities of Gutta-percha in Mindanao. On this latter point the commissioners are thoroughly convinced, and it is evident that they regard it worth while to exert all the influence of the government to protect the native trees, while stimulating the extraction of Gutta-percha, and ultimately to encourage planting.

The statement is made that the species *Dichopsis gutta*—known in the Malay peninsula as “getah taban,” and which is the source of the best Gutta-percha—has not yet been found in the Philippines. But it might be observed that the greater portion of the Gutta-percha of commerce is yielded by other species than the one named. The price obtained at Singapore for the Philippines Gutta, as prepared by the Chinese, has ranged from \$40 to \$180 Mexican per picul [=30 cents to \$1.13 gold per pound], according to quality. The report mentions also the existence in the Philippines of rubber producing trees, and particularly of a giant rubber creeper, but these had not been botanically identified.

[An appendix to the report, not yet in print, will contain the results of an expedition to the Gutta producing districts of Borneo, Java, and the Malay peninsula, by Dr. P. L. Sherman, as agent of the Philippines forestry bureau. It was part of his mission to study the methods of extracting Gutta, and to become familiar with the various species in order to be able to identify those found in the Philippines. From what can be learned in regard to Dr. Sherman's report, it promises to be an important contribution to the literature of Gutta-percha.]

MORE ABOUT “THE BOLIVIAN COMPANY.”

WE have further details regarding the “great deal,” involving the control of the Bolivian rubber fields, about which *The India-Rubber Journal* (London) recently presented “information of such an astonishing character.” It does not appear probable, however, that the supplies or prices of rubber will be affected, in consequence of this movement, for a good while in future. The nature of Sir Martin Conway's interest in Bolivia has been referred to already in THE INDIA RUBBER WORLD, and the company named in our headline is an outgrowth of this interest. *The South American Journal* (London), by the way, recently mentioned the following New York bankers and capitalists as interested in the enterprise; Brown Brothers & Co., Frederick P. Olcott, Hamilton McK. Twombly, Frederick W. Whitridge, John R. Hegeman, Richard J. Cross, William A. Read, Adrian Iselin, Roosevelt & Son, George Bliss, and August Belmont. By inquiry of some of the parties named it was learned that they were concerned in the Bolivian Co., but for particulars THE INDIA RUBBER WORLD was referred to a firm of counsellors at law, who, on December 11, favored us with this statement:

We beg to say that a small syndicate was formed here in pursuance of Sir Martin Conway's explorations and reports, for the purpose of

undertaking certain explorations in Bolivia, particularly in the rubber bearing regions, and a company was incorporated under the laws of West Virginia some time last spring—we do not recall the exact date—for the purpose of raising the capital for the syndicate operations and, in case the report should be favorable, of undertaking some development. The thing is of a very modest character, but very good people are interested in it. It seems hardly worth mentioning, but there is no objection to your printing a copy of the articles of incorporation, if you care to do so.

The date of incorporation of the company in West Virginia was January 25, 1901. The declared objects are to acquire real estate and other property in Bolivia and elsewhere in South America, to develop mines, exploit natural products, and create or control means of transportation. The authorized capital is \$1,000,000, though the initial issue comprises but one \$100 share each to the five signers of the incorporation papers—who evidently are all attached to the office of the legal firm above quoted. The principal office is to be maintained in New York, and the corporation is to exist until January 22, 1951.

Lately the point was raised that the government of Peru claimed that the lands on which Sir Martin Conway holds a concession were located in territory disputed between Peru and Bolivia. On December 23 the Bolivian congress adjourned without sanctioning a treaty of arbitration of the boundary dispute with Peru, but it is reported from La Paz that at secret sessions of the congress the contract with The Bolivian Co. was ratified.

It would seem, from all the above, that, although the New York parties named are of the highest standing, and although the Bolivian concessions are undoubtedly rich in rubber, much remains to be done in developing Sir Martin Conway's very interesting plans.

LARGE BALATA YIELD OF VENEZUELA.

SOME unexpectedly large figures respecting the output of Venezulean Balata appear in the journal *El Guaynés*, of Upata, in that republic. During the twelve months ending with October last, according to that paper, 1,840,000 kilograms [=4,048,000 pounds] of Balata were shipped from the ports of San Félix and Guri, in the territory of Yuruary, to Ciudad Bolivar. This district lies south of the Orinoco and east of its tributary, the Caroni, besides which the region is drained in part by the Yuruary and Imataca rivers. This Balata paid a tax to the state of Bolivar equal to about 4 cents gold per kilogram (the rate has since been doubled), and 2 cents to the national treasury of Venezuela. Besides, there were \$772 collected in company taxes, fees, etc. The total public revenue from Balata was \$11,425.60. The export value of the Balata, according to *El Guaynés*, was equivalent on an average to 38 cents, gold, per pound, bringing the total value for twelve months up to \$1,538,200.

A VALUED COMPLIMENT FROM GERMANY.

THE INDIA RUBBER WORLD, of New York, our esteemed contemporary in the rubber industry across the seas, completed lately the twelfth year of its existence and commenced its twenty-fifth volume. This excellent trade journal is especially proud, and with good reason, of the fact that so few changes have occurred in its organization during these twelve years. Its founder, editor, and name, and the high character of its contents have remained the same. We hail our flourishing contemporary with a cordial “ad multos annos.”—*Gummi-Zeitung* (Dresden).

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

ALTHOUGH, to the bulk of those who visit the Stanley and National shows held every November in London, the cycle itself rather than the tire alone is the main objective, the reverse is the case with the present writer, whose attention on these occasions is fixed only on the

rubber in order to find out anything of novelty or special interest. In this respect it cannot be said that enthusiastic explorers have this year found much to compensate them for their zeal, objects and species already known to science—to borrow a naturalist's phrase—being in far greater prominence than novelties, though of course this state of affairs is only what may be premised in an application of rubber which is not by any means in the first blush of youth. But to leave the general for the particular, the rubber companies who had stands at the National Show, at the Crystal Palace, were The Dunlop Rubber Co., The Avon Rubber Co., and Capon Heaton & Co. The Avon company had on view a good assortment of their manufactures—cab, cycle, and motor tires naturally holding a prominent position. The "Coronation" motor tire now being made by them has the advantage over the ordinary type of solid tire in that it is molded endless instead of in straight lengths. There is thus no tension on the thread, and consequently, when the rubber is cut, the gashes close up instead of stretching open, as in the case of the ordinary form of tire. They have also a new rubber tread for building and repairing motor tires, which, being molded of a similar shape to that of a tire when inflated, is claimed to be much more durable than a flat tread, and to be also more easily fitted. The Dunlop company had on distribution an attractive booklet giving details of their tire, together with a compendium of information which must prove of considerable utility to riders. In motor tires, the Dunlop-Welch multiflex light motor tire was prominent, but the heavy vehicle tires do not yet seem to have been made by the company, and, though there were plenty of these to be seen up and down the show on motor cars, they all bore the well-known Michelin inscription, in addition to the "Clipper" stamp. The show, though primarily intended for cycles, has this year developed largely into a motor show, though the little vehicles are to have their own special show in the course of a few months. Monster "biscuits" of Pará rubber were in evidence at many of the exhibits, and, apropos of this tendency to enlighten the public as to matters of detail, a rubber works manager informs me that there has been quite a brisk inquiry for large "biscuits" of Pará to use for show purposes. According to the booklets issued by various firms Pará rubber is the only brand which is known to or at any rate utilized by tire makers. Into the truth of this contention I shall not stay to inquire, but it quite knocks in the head the statements of those interested in African produce that the tire trade has proved a stimulus to the gathering of rubber. What seemed to be the chief attraction of the show was the "Self-Inflating" tire, exhibitions of the action of which were given at frequent intervals of the day by The New Self-Inflating Appliances and Tyre Co., Limited, 12, Great Dover street, Borough, London, S. E. Something on the principle of the locomotive which fills its exhausted tank from a trough when in motion, this tire, to put the facts briefly, in its action when rolling along the road pumps in air enough to keep it inflated, losses of air by punc-

ture being almost immediately put right. Not quite so much of a novelty is the patent self-sealing air-tube which has been before the public for three or four seasons already. In this device the property of the Self-Sealing Air Chamber Co., Limited, of Hinckley street, Birmingham, the effect is produced by a thin strip of highly compressed vulcanized rubber which is securely fastened to the inside surface of the upper portion of the air-tube which comes into contact with the tire cover. E. G. Wood, of Wolf street, Stoke-on-Trent, showed his patent self gripping fabric tires, one of the most important parts of which consists of a circumferential ribbed fabric flap encasing the inner tube, which, under inflation, engages with the fabric of the outer cover, producing thus a firm grip easy of manipulation. A specialty about the canvas is that it is spun on mandrils to the shape of the tire, there being thus no distorting when the tire is made up. Exhaustion of space permits only bare reference to the fact that the "Velox" tires of the New Amalgamated Tyre, Limited, of Parkside, Coventry, made a good show, and that the Triumph Cycle Co., Limited, of Coventry, had on distribution a well got-up booklet dealing fully with the development and present position of military cycling, the cyclist being now recognized as an important unit in a field force.

AT the present time, to an extent never equalled in previous periods of the world's history, humanitarian sentiments with regard to the dangers experienced by the working classes in their various occupations are being expressed by people who have not been accustomed to bother themselves about what is outside their own province. Articles written on the "white slaves of England," who are engaged in more or less health destroying operations have attracted much attention to what is undoubtedly a social evil. Up to recently the natural history of rubber cannot be said to have been at all familiar to the person of average attainments or reflective nature in Great Britain, but of late I have noticed that the subject has come to be discussed in a much larger area than that which is circumscribed by trade interest. This is of course directly traceable to the Press. Mr. Baring-Gould, in one of his recent novels showing up the evils of the pottery trade, has taken the opportunity to bring home to cyclists the intensity of the annual death roll experienced by the South American rubber gatherers, while our daily papers have had articles under the head line "Congo Horrors," the iniquitous rubber traffic, etc. No doubt there is a good deal that needs showing up in the methods adopted by the rubber concessionists of the Congo, and now that public interest has been aroused it is unlikely that methods of barbarism will be allowed to go unchecked in the future as in the past. Although it is clear that the labor difficulty is likely to achieve a prominence which will almost strangle an important industry, it is imperative that the European nations who are developing Africa should act in strict accordance with Western ideals of civilization.

I DON'T know what is the general practice in America, but over here the thermometer is preferred to the pressure gage as being much more reliable in its indications. An English firm which has long made a specialty of thermometers for rubber factories is Messrs. Joseph Casortelli & Son, of 43, Market street,

INDIA-RUBBER
AND HUMANITY.

THERMOMETERS
FOR VULCANIZING.

Manchester, and they now make a point of engraving on the brass of the thermometer the steam pressures corresponding to the temperatures. This firm carry out the thermometer manufacture in all its stages themselves, while as regards London makers it is the usual practice to subdivide the work, the glass blowing being done by firms who make this a specialty; but who do not carry their work any further, selling it at this stage to the optical instrument makers. I presume that as far as vulcanizing thermometers are concerned, America fills her own needs, though I know that large numbers of clinical thermometers are exported yearly from the neighborhood of Hatton Garden to America. In Great Britain the Fahrenheit scale is almost universally used, the only notable exception of which I am aware being the Dunlop Rubber Co., who use a thermometer of the ordinary laboratory type, all glass and graduated to the Centigrade scale. This type of instrument, I should imagine, is very apt to suffer at the hands of workmen.

THE demand for solid cab tires is decidedly on the increase and it is noticeable that one or two firms who own patents but have hitherto given the orders for manufacture to rubber works have of late put down rubber plant of their own, in order to get the manufacturer's profit for themselves. It is to be hoped that those who are following this course will find their way easy, but it is a fact that the manufacture of such tires successfully postulates an intimate knowledge of detail and the successful way in which our large rubber works are carrying on the business has not been achieved in a moment but only after a considerable expenditure of time and money. I don't wish to write in a pessimistic strain; but at the same time it seems desirable to draw particular attention to the existence of sunken rocks which those who already see the manufacturers' profit in their grasp are only too liable to ignore the existence of. It is pretty well recognized that in order to gain and retain public confidence it is advisable to stick to a good quality of rubber, and we are not likely to see the mixings degenerate into the sort of thing that one has become accustomed to in the case of perambulator tires.

MESSRS. BROADHURST & CO., about the crisis in whose business reference has recently been made in these columns, have now been reorganized as a limited company with a capital of £10,000. The various objects for which a company is floated are often exaggerated in the memorandum of association, but it is noticeable that reference is not only made to rubber and leather business generally in the present case, but also to the electric cable manufacture. Some comment has been caused by the comparatively small capital, but however this may serve for the purposes of the mechanical rubber business it is difficult to see how it is in any way adequate for the needs of the cable manufacture. The first directors of the new company are Messrs. Robert Hindle, Thomas C. Middleton, and John B. McKerrow. The business will be carried on in the old premises in Bradford, Manchester. —I understand that proceedings are being taken by E. G. Wood, of the patent Self-Gripping Fabric Tire, against the "Radax" tire of Manchester, and The Swain Tyre Co., of Harwich, for alleged infringement. —The Eccles Rubber Co. have emerged, Phoenix-like, from the ashes of their conflagration, and are now making and selling balls again as hard as ever. Mr. Brunessecaux, late of the rubber shoe department at Frankenburg's, is now with the Eccles company. —I understand that the North British Rubber Co.'s motor tires have now been raised to the same price as those sold by the Dunlop company, and, if speculation is permissible on the subject, this may be due to either of two causes; firstly, an amicable arrangement between the two companies as to selling price, or, as has

been suggested by a motorist of some experience, in order to let the business slide, the difficulties in connection with it being more acute than was at first anticipated.

I DON'T know whether it has made any appreciable difference in the ladies' mackintosh business or not, but the popular garment at the present time is of rain-proof material sold at from 25 to 30 shillings, with the undertaking that it can be returned for a new rain-proof dressing when it shows a loss of its useful effect. I understand that these goods are of French origin; certainly they have a good appearance, and the undertaking to reproof them, so to speak, has proved an attractive bait. It remains yet, however, to be seen how far this undertaking is carried out in the letter and, further, what its effect is.

A CHEMICAL manufacturer unburdened his soul to me the other day with regard to a difficulty which I understand is of common occurrence with hose. It is not that the rubber is bad, or is acted upon by the chemicals; it is a physical injury accruing from the method of use. Rubber hose is very generally used to siphon liquors from one tank to another, for which purpose the coil is put into the first tank so that it may be filled and ready to act as a siphon when it is hung over the side of the tank. It is this part of the process which causes the trouble as the rubber gets eroded and soon wears away. A remedy which at once suggests itself is to cover the tube with hemp or some other textile material, but the chemical people object to introducing this into their liquors. Under the circumstances it is not easy to see a way out of the difficulty, but I make it public as there are probably fertile brains which may suggest a remedy.

PATENTS in connection with tires or other details of bicycles continue to be taken out by inventors, but when it comes to selling them to the public in the form of companies or syndicates, there is a growing diffidence exhibited by investors. And the objection always made is that the Dunlop company is sure to go for it on some ground or other, thus involving the new company in litigation and expense at the outset of its career, and this acts as a potent deterrent in cases where there is not too much money, even if a strong feeling exists that the threatened opposition of the big company has no sort of justification.

QUITE a degree of excitement has been created in golfing circles about this ball, which has come from America with such a great reputation. Newspapers both general and technical have had articles on the subject, but it is rather too soon to say whether the interest that has been aroused will result in the permanent use of the ball. Certainly the retail selling price of 2s. 9d. will undoubtedly prove a drawback, as the game is not by any means confined so much to the well-to-do as was the case some years ago. I shall prefer to withhold the scattered observations which I have made concerning this ball until I have sifted them and gaged their credibility.

NAPHTHA IN RUBBER WORK.—"People not familiar with the rubber trade have no idea of the great quantity of naphtha that is consumed in Akron," said a rubber manufacturer of that city, quoted in the *Daily Democrat*. "I would not attempt to estimate the quantity, but it runs into hundreds of barrels every week and there is considerable competition between the Standard Oil Co. and the Cleveland Refining Co. for the supplying of this demand. Maybe when the rubber manufacturers all unite to import their own crude rubber they will combine to purchase their naphtha jointly and secure better prices."

WATERPROOF
GARMENTS.

CHEMICAL
TUBING.

TIRE
PATENTS.

HASKELL
RUBBER
GOLF BALL.

CAB
TIRES.

COMPANY
NEWS.

A GERMAN OPINION OF THE RUBBER SHOE MACHINE.

From the "Gummi-Zeitung" (Dresden).

UNDER the heading "A Revolution in the Manufacture of Rubber Footwear," THE INDIA RUBBER WORLD, of New York, presents an alarming article on a newly invented machine for the manufacture of rubber shoes, excluding all hand work. Generally we view these alarm articles written on the other side of the ocean from a skeptical standpoint, and if the article cited above did not emanate from our otherwise well informed—and in matters pertaining to the rubber industry well versed—American cousin, we would have scarcely taken any notice of it. Our American cousins are incorrigible optimists, and even if, through this tendency, they have sometimes made rapid advances and flitted over harrowing obstacles, which others had with difficulty to climb, fatal disappointments have occurred to them oftener than to any other nation, and untold capital has been lost by them in unlucky inventions and revolutionizing improvements, which afterwards proved premature and impracticable. With us events move more slowly, and, therefore, more surely and thoroughly; in consequence of which, we are constrained to accept this story of the manufacture of rubber shoes entirely by machinery, with prudence. But let us first hear what THE INDIA RUBBER WORLD has to say. [Here follows the article published November 1, 1901—page 51.]

This much for THE INDIA RUBBER WORLD. The difficulty, in the face of this enthusiastic description of this wonder working machine, to maintain the cool deliberation of those interested, is at once apparent. But within this fabulous description lies the very point which awakens distrust. Until now the American gentlemen have praised their rubber shoes as being the very acme of elegance and beauty, unsurpassable in quality; they described their factory methods of thoroughness, practical exploitation of space and labor, etc., as unattainable by others—no necessity existing for improvement. To day they rudely term their shoes "uncouth abortions," and their method of manufacture "clumsy, of the middle ages"; this, of course, for no other reason than to "boom" the new machine to the extreme.

As far as we are concerned, we can but remark that the now existing condition of our rubber shoe manufacture is to us entirely satisfactory, having no occasion to denounce it as crude and ancient. The German shoe is handsome, light, and cheap, and exceptionally durable. The German methods of manufacture, as, for instance, we witnessed them in Harburg, have attained the same high standing which characterizes all other branches of our German industry. Machine work, wherever possible, has superseded handwork, and this, where actually necessary, has been organized to precision, and so trained as to obtain the highest possible results. It is certainly possible that further improvements and inventions can be made, whereby the high cost of production may be lessened—our manufacturers not objecting while the quality of their product is not deteriorated, but in this, as well as in all other things, the advances are made carefully, step by step, systematically improving one after the other. A wonder machine producing in one minute a complete rubber shoe of superior quality to any heretofore had, and that by using inferior material, and at a lower cost, must arouse the suspicion of every rubber man who is at all familiar with the many sided perplexing details, and exacting demands made of the rubber shoe. It must also

be considered that with us, in Germany, where labor is not so costly as in America, the saving derived from machine work does not figure in the same ratio as there. It is our belief, therefore, even if everything should transpire, as told in the above description, the "revolution" in the manufacture of rubber shoes will progress but slowly in Germany.

We do not maintain, however, that it is impossible to manufacture a complete shoe entirely by machinery; human skill and ingenuity have solved more difficult problems than that, and why should it not succeed in this? It may also be possible that a shoe thus manufactured may present a more pleasing appearance, and be cheaper, but in one essential it is bound to be inferior to the now existing product, and materially so—*i. e.*, durability, a feature which especially distinguishes our German shoes. Machine work has succeeded in many instances, producing handsome articles of pleasing appearances with the greatest of ease where handwork would be laborious and difficult, but, simultaneously, with the machine work appears its inseparable companion—less durability. This is within the order of all things and will be so in this instance; in fact, from the few remarks made by THE INDIA RUBBER WORLD, in regard to the manner of manufacture, it may be taken for granted. Apparently the rubber is sprayed into a form, or, in a softened condition, is pressed over a model. Every rubber manufacturer is aware of the fact that sprayed rubber, or rubber which has to be softened beforehand, becomes less durable. It is, furthermore, plainly to be seen that the shoes have to undergo cold vulcanization, and it is equally well known that goods vulcanized by that process are less durable than those which undergo heat vulcanization. Added to these defects is the fact that cheap mixtures are used, which give, with mathematical precision, a corresponding cheapness in quality and durability.

Now, as to the details. In handwork the materials are selected according to the amount of wear imposed upon each particular part; strong reinforcements are made where needed; the uppers are to be elastic and should not tear; the counters must be stiff, and not break; soles and heels should be elastic and tough. For all these a different grade of rubber and material is used. These painful details are the factors producing durability; they are unattainable by machine work. Therefore, the rubber shoe, made by hand, as it now exists, will no doubt remain supreme in solidity and durability, not to be crowded out by machine made shoes. If we were made to believe everything as described by our worthy contemporary on the other side of the ocean, on this point we could never be brought to agree. Similar stories have been told about the manufacture of rubber balls, and pneumatic tires, from which several years ago much was expected, and which were also termed a "revolution" in their manufacture. Well, time has proved that it is impossible for machine work to compete with carefully planned hand work, where everything is considered. The skill of human hands in many instances is as indispensable as the detailing and parceling in manufacturing, made possible by it, which is not within the scope of a machine, and, if we are not far wrong, this pertains especially to the manufacture of rubber shoes.

A noticeable point is that it is claimed for the described machine to have been patented in "America and foreign coun-

tries," but as yet no patent has been obtained in Germany for it. This is of great import because, generally, the granting of a German patent is regarded as a test for the newness and practicability of an invention. Close researches reveal the fact that within the past five years no patent has been granted Joseph O. Stokes for the manufacture of rubber shoes in Germany. We will await further developments in this matter, which is important enough to have special attention given it.

THE RUBBER SHOE TRADE IN GERMANY.

[FROM THE "GUMMI-ZEITUNG," DRESDEN.]

WITH the advent of the rainy cold season, the busy time in the rubber shoe branch begins, and, though but few rainy days have been recorded during this fall, a brisk demand for rubber footwear has already set in in the large cities. The prospects are very favorable for this season. The long continued cold weather and the heavy snows of last winter, not only caused a general cleaning out of stocks of the retailers, but caused the shoes to be worn out in consequence of their long continued use, so that new ones will have to be bought.

The use of rubber shoes is growing continually, as the public by degrees becomes more and more convinced of the benefits derived from wearing them during cold and wet weather. It is to be regretted that this increasing consumption of rubber footwear does not redound solely to the benefit of our home industry, which is fully competent to supply the demand. It is to be hoped that this increasing consumption will not receive a check from the introduction of inferior qualities. The public seems inclined to favor the thin, light shoes (which are praised as the best by the foreigners), without taking into consideration that with our generally coarse footwear and hard paved streets, goods of that style cannot possess much lasting quality. Lightness and thinness are obtained at the expense of durability, and, as the great majority of consumers prefer a durable rather than a stylish or ultra fashionable shoe, it is timely to call the attention of buyers to this fact.

Experience has conclusively demonstrated that in countries lying more northerly, where severe winters are of long duration, a strongly made shoe with heavy sole is the only one practicable, and capable of withstanding the climatic conditions. Of course it is possible to combine fit and appearance with wearing qualities, but this, as before mentioned, must not be done at the expense of the latter. Attention may here be called to the habit of the dealers to sell, generally, shoes which are too narrow, hastening their premature ruin. A rubber shoe should neither bulge nor stretch, but be of such dimensions that it can be easily drawn on or removed. Tight overshoes will soon show a split of the outer rubber at the edges of the soles, or a rubbing through of the inner insertions. But with all this the rubber shoe should not be so loose as to flop at the heels; it should be a good and easy fit.

Speaking in general, the trade in rubber shoes in middle Europe has not nearly reached its possibilities, the general public regarding it more as a luxury than an indispensable necessity for wear through all seasons of the year; their hygienic value being too little known to be fully appreciated. This matter should be attended to by all dealers and manufacturers, so as to convince the public that it is an absolute necessity, during cold and wet weather, for the rubber shoe to be on every foot; and by this means the sales may be doubled. It is so in other countries, and should be so in ours. The attention of the public should be continually called to the comforts and advantages derived from the wear of rubber shoes, through newspaper articles, advertisements, in the show windows, catalogues, etc.

THE AMERICAN PACIFIC CABLE.

PRESIDENT ROOSEVELT, in his first message to the United States congress, makes the following recommendation:

"I call your attention most earnestly to the crying need of a cable to Hawaii and the Philippines, to be continued from the Philippines to points in Asia. We should not defer a day longer than necessary the construction of such a cable. It is demanded not merely for commercial but for political and military considerations. Either the congress should immediately provide for the construction of a government cable, or else an arrangement should be made by which like advantages to those accruing from a government cable may be secured to the government by contract with a private cable company."

* * *

J. W. MARSH, of the Standard Underground Cable Co. (Pittsburgh) writes to the *Electrical World*, apropos of the statement that the Commercial Pacific Cable Co. had awarded a contract for the California-Hawaii cable to the Silvertown company because no American works was prepared to construct it, that only one reason has prevented an American deep sea cable industry from coming into existence. He says:

"Just as soon as congress cures the serious and apparent defect of the existing tariff laws, by an amendment imposing on foreign made submarine cables, such a duty as shall equal the 'theoretical' protection of the Dingley bill [applicable only to one marine league from shore], applied to the entire length of a cable, the manufacture of deep sea cables will become an American industry of no mean magnitude."

* * *

IN view of the announcement of Signor Guglielmo Marconi that, on December 14, he received at St. John's, Newfoundland, wireless telegraphic signals from Cornwall, England—a distance of nearly 2000 miles across the Atlantic—the New York *Herald* procured an interview with George G. Ward, vice president of the Commercial Pacific Cable Co., as to the probable effect upon ocean cabling of the success of Marconi's experiment. Mr. Ward said:

"I would not, for a moment, deprecate anything that Marconi has done, but I see no cause as yet for cable men to become alarmed. Ocean cabling is a delicate operation, even with the best of conductors, and Marconi proposes to turn his currents loose in the air without a conductor. Nearly nine-tenths of our business is in cipher, and accuracy is of the greatest importance. An error of one letter may give a contrary meaning to an entire message."

"Will Marconi's experiments have any effect upon the laying of the cable to the Philippines?" was asked.

"Not the slightest," replied Mr. Ward. "We have already contracted for the work and 100 miles of the cable have been completed by the manufacturers. Marconi, if he has talked between Newfoundland and Ireland, has covered about 1600 miles. Our cable to the Philippines will be 7000 miles long. Even if Marconi could send messages 1600 or 1800 miles, it would not do us any good in reaching the Philippines, as we have no way stations within that distance."

* * *

JOHN W. MACKAY, president of the Commercial Pacific Cable Co., said recently to a newspaper man at Los Angeles, that San Francisco has been chosen for the Pacific cable terminal.—The Seattle (Washington) chamber of commerce has adopted a memorial to congress favoring an American cable from Puget Sound to Alaska, the Philippines, and Asia—or by what is known as the "northern route."

THE RUBBER PLANTING INTEREST.

WHAT IS MEXICAN RUBBER WORTH?

SINCE the interest in rubber culture in Mexico has become so widespread, THE INDIA RUBBER WORLD has been in constant receipt of inquiries from outside the trade regarding the value of rubber produced in that country. It is becoming better understood that the rubber from different countries differs in quality, and the fact that fine Pará rubber at times brings \$1 a pound, does not indicate an equally high value for the Mexican product. The amount exported from Mexico—practically all of which, as yet, is wild rubber—is too small, relatively, and the shipments too irregular, to admit of established market quotations, as in the case of the rubbers which are constantly in stock in large amounts. Mexican rubbers are classed as "Centrals," along with the product of the Central American states, Colombia, and Ecuador. Hence their market value may always be judged by the quotations for Centrals. In answer to an inquiry, the leading crude rubber firms in New York city have favored THE INDIA RUBBER WORLD with statements regarding Mexican rubber, which are presented herewith:

I.

The imports of Mexican rubber are very small at present. *Mexican Scrap* classes with *Esmeralda* and good *Central Scrap*. *Mexican Sheet* classes with the better goods of *Central American Sheet*. This is a fairly good rubber and is liked here about the same as the other good Central grades. We quote to-day: 53 @ 54 cents for good *Mexican Scrap*, 48 @ 50 cents for good *Sheet*, and 45 @ 46 for tarry *Guatemala*.

II.

Mexican rubber comes largely in what is known as *Scrap* and *Strip*, mixed in the same bale. This rubber is worth to-day 54@55 cents and, as it usually comes, is practically the same value as *Nicaragua Scrap*, the rubber being somewhat dryer than *Nicaragua*, and the shrinkage somewhat lower, but on account of the *Strip* being mixed in the bales, it usually brings the same price. The rubber is clean and dry, and is a good, hard, strong rubber.

III.

All *Mexican Scraps*—such as *Tuxpan*, *Laguna*, and *Vera Cruz*—follow our prime scraps, *Esmeralda* and *Nicaragua*. They seldom fail to sell under one cent below. The qualities of *Mexican Scrap* are most desirable, being of low shrinkage, and desirable for shoe manufacturers, who are the chief buyers. To-day's values, 54@54½ cents.

IV.

Many Central American rubbers sell at this market as Mexican, such as *Salvador Sheet*, *Guatemala Sheet*, *Tarry Guatemala*, *Tuxpan Strip*, etc. All these Mexican rubbers are classed with Centrals, such as *Nicaragua Scrap*. The prices vary according to the grades and qualities. Good *Mexican Scrap* brings the same as *Nicaragua Scrap*, but occasionally higher. *Salvador* and *Guatemala Sheets* sell from 50 to 15 cents per pound less, according to the quality. We can quote to-day *Mexican Scrap* 54@55 cents.

V.

Mexican rubber has always come here, and the *Scrap* to-day is worth 55 cents. The *Sheet* and *Strip*, according to quality, bring from 53 down to 45 cents.

It is interesting to note that these several letters, from as many different houses, are in substantial agreement as to the rank and the current values of Mexican rubbers. By the way, the quotation on the same date for the highest grade of *Pará* rubber was 88 cents.

From one of the letters quoted it is to be inferred that if Mexican rubbers were graded more closely, the prime sorts would bring more money. It is, indeed, commonly recognized that all Centrals are capable of more cleanly preparation than at present, in which case their selling value would be enhanced. But it is out of the question, by any means, to make rubber from the *Castilloa elastica* tree of Mexico and Central America equal in its properties, for manufacturing purposes, to the product of the rubber trees of the Amazon valley.

MEXICAN MUTUAL PLANTERS' CO.'S SHORT CROPS.

[Plantation "La Junta," state of Vera Cruz. Offices: New York Life building, Chicago.]

THIS company's November bulletin states: "Until this year, we have not attempted to raise side crops—not even for our own use; but with the big force we have maintained on the place this season, we have planted and are now harvesting over 200 acres of corn, and are planting a second crop of 200 acres; also, 50 acres of beans. As these plantings are made in our new rubber fields, which must be kept clean, the expense of cultivation amounts, practically, to the planting and harvesting of the crops, and with the demand that is likely to exist, we anticipate a good sized revenue for our investors, from this source."—The price of corn in Mexico has been very high of late, and yet it is practically a necessity on every plantation. There have been reports of \$100 Mexican paid per ton, or in the neighborhood of \$1.40 gold per bushel, and the government has been petitioned to remove the import duty.—There were recently 81 Chinese employed on "La Junta" plantation, and 20 expected. Toy Kee, lately of San Francisco, "an Americanized Chinaman of ability," has been engaged as superintendent of Chinese labor.

THE OBISPO RUBBER PLANTATION CO.

[Plantation "La Republica," state of Oaxaca, Mexico. Offices: Park Row building, New York.]

MR. MAXWELL RIDDLE lately returned from this plantation to New York, and reports that the year's progress on both the company's lands and his private estate has strengthened his confidence in the future of rubber culture. The first planting of rubber (*Castilloa elastica*) was done on the Obispo property during the year, two methods being tried: (1) planting the seed at stake in the location to be occupied permanently, and (2) transplanting seedlings from a nursery. The first method Mr. Riddle regards as preferable, where it can be practiced, for the reason that, under the most favorable condition the transplanting of seedlings gives a setback to their growth. Where planting at stake is the method adopted, three seeds are planted at each location selected for a tree, and when the plants appear the superfluous ones are pulled up, leaving the most vigorous specimens, of course. Thus is obtained a stand of selected plants, the growth of which is uninterrupted by any shock such as might result from transplanting. But this method is practicable only during the brief period—usually in June—while the seeds of *Castilloa elastica* are ripening, since they do not long retain their vitality. On the other hand, if the seeds are sown in nursery beds, the seedlings can be transplanted during at least eight months of the year, and at any age from a few weeks to eighteen months or more. As a rule planters find it more convenient to continue the work of planting through the year than to concentrate it within a single month, and hence the resort to seeding

in nurseries as a feature of the work. March, April, and May constitute what is called the "dry season," during which transplanting is out of the question. Mr. Riddle reports a loss of only 1 per cent. of the seedlings transplanted since June last, which is an exceptional record. The result from planting seeds at stake was less satisfactory, owing to the location being on a hillside, so that some of the seed planted was washed out by heavy rainfalls. Four hundred trees are planted to the acre, 200 of which will be removed at the age of say five years, and all the available rubber taken from stem, root, and branch; besides, there will be more room for the remaining trees. This estate is the one referred to already in THE INDIA RUBBER WORLD as being developed under contract by the Republic Development Co. In addition to this, Mr. Riddle is engaging in rubber cultivation on his private account. He has done some planting in each of three seasons past, and now has a considerable number of trees dating from the seed crop of June, 1899.

THE VERA CRUZ DEVELOPMENT CO.

[“La Esmeralda” Plantation, state of Vera Cruz, Mexico. Office: Canton, Ohio.]

THIS company, composed of leading business men of Canton, Ohio, have acquired 3000 acres of land near the Vera Cruz and Pacific railway. It is also on the Tesechoacan river, which is navigable, a regular line of steamers running direct to the Gulf of Mexico by way of Avarado. It is intended to plant half the estate in rubber, and the remainder in sugar cane and “short crops.” The company offer for sale plantation shares, entitling purchasers to participate in the profits of the enterprise. The plantation manager will be Professor L. M. Bloomfield, some time connected with the Ohio State University and more recently interested in tropical agriculture, particularly in Honduras. The Vera Cruz company were incorporated under Arizona laws, in July, 1901, with \$1,000,000 capital.

COLINA PLANTATION CO.

[Plantation in the state of Oaxaca, Mexico. Office: Independence, Iowa.]

INCORPORATED October 7, 1901, under Iowa laws. The company own a small plantation of the “Dos Rios” group, which was purchased five years ago by the gentlemen who are now officers of the company. They have now 22,500 coffee trees, mostly five years old, and 4000 rubber trees of the same age. They purpose planting 50 acres in rubber this year. The directors are: Vernon W. Peck, Pittsburgh, Pa.; A. C. Smith, Storm Lake, Iowa; Owen E. Cole and Clark L. Cole, Independence, Iowa; and George Montgomery, Alexandria, South Dakota.

ILLINOIS RUBBER CO.

A COMPANY under the above name is being organized at Bloomington, Illinois, to cultivate rubber in Mexico, on plans suggested by John S. Spencer, a former resident of Bloomington, but who for several years has been engaged in growing coffee at Manititlan, on the isthmus of Tehuantepec.

STRAITS SETTLEMENTS.

THE annual colonial report for 1900 says: “Rubber cultivation is steadily increasing. - - - Rubber is attracting the attention of Chinese estate owners, and is being largely planted on the Bukit Asahan estate, owned by a Chinese syndicate, and at Durian Tunggal. Both Pará rubber (*Hevea Brasiliensis*) and India rubber (*Ficus elastica*) thrive in the Settlement, and the cultivation is only limited by the difficulty in obtaining seeds and cuttings. The government plantations of both these trees should in a few years be capable of supplying all demands: - - - During the year plantations of Gutta-percha producing trees were started in Singapore and Malacca. The supply of young plants and seeds is limited, and it is difficult

to obtain any large number at a time. Five hundred young Gutta-taban (*Dichopsis gutta*) trees were, however, obtained from Penang and planted in Malacca. Most of these are doing well.”

CEYLON PLANTERS' RUBBER SYNDICATE, LIMITED.

AT the first general meeting of shareholders, at Colombo, October 31, accounts were submitted to the end of August. The syndicate's property embraces 884 acres, on 615 acres of which the timber had been felled, on 480 acres further preparatory work had been done, and 300 acres planted in rubber. The manager expected to have 350 to 370 acres planted by September 30, and the remainder by the end of the year, the plants not being large enough to be set out earlier. Most of the land is given out to Chinese to weed, in return for being allowed to plant vegetables among the rubber. These details are gleaned from *Planting Opinion* of Madras, India, for November 9.

PLANTING ENTERPRISE IN SELANGOR.

THE Kajang Coffee and Rubber Co., Limited, have been registered in London, with £23,000 capital, to acquire three estates in Selangor, in the Malay peninsula, namely: The West County estate, managed hitherto by Allen & Co.; the Belmont estate, and the Weld's Hill estate. The business of the new company will include growing and dealing in coffee, tea, India-rubber, and fruit, and prospecting for minerals. The first directors are: C. W. Prosser, A. A. Allen, E. Field, and F. H. Hicks.

RUBBER SEED AND PLANT CATALOGUE.

THE “Descriptive Price List of Tropical Seeds and Plants and Commercial Products” issued by J. P. William & Brothers (Heneratgoda, Ceylon), for 1901-02, like its predecessors, devotes no little attention to India-rubber yielding species. Over thirty varieties of rubber and Gutta-percha, seeds or plants of which this firm are prepared to supply, are described in their pamphlet, and prices given. There are some additions to the list this year, one of which is referred to as follows:

Euphorbia Tirucalli.

(“Almeidina” Gum, or “Potato” Rubber.)

We understand from THE INDIA RUBBER WORLD that this gum was first brought to notice about 1881 by Senhor Almeida. The export in 1898 was valued £776 18s. 5d., and in 1899 more than double the value, and early increasing. The plants do not bear seeds, but are propagated by cuttings. Wardian cases of 200 plants £10. Grow from the sea level up to 2000 feet and over.

An interesting feature of this catalogue is the information which, incidentally, it gives in regard to rubber planting undertakings in various countries. For example, “a leading rubber planter in Sumatra” is reported to have purchased 50,000 Pará rubber seeds in 1899 and 100,000 seeds in 1900, and to have been satisfied with the result. The shipment is mentioned of 2500 Pará rubber plants to British New Guinea, Ceará rubber seeds to Colombia (South America) and to Lagos (West Africa), and so on.

RUBBER PLANTING COMPANY PUBLICATIONS.

THE Vera Cruz Development Co., Canton, Ohio=La Esmeralda Plantation [Prospectus]. 32 pp. + map.

Mexican Mutual Planters' Co., Chicago=*The La Junta Planter*, No. 7. (November, 1901.) 24 pp.

Chicago-Chiapas Rubber Plantation Co., Chicago [Branch of the Chiapas Plantation and Investment Co., San Francisco.]=*The Tropics Paying Tribute*. 16 pp.

The Oaxaca Association (Inc.), Chicago=(1) *Brief Facts and Answers to an Investor's Questions*. 24 pp. (2) *Bulletin No. 44*—March, 1900, 15 pp. (3) *Bulletin No. 51*—October, 1900. 11 pp. (4) *Bulletin No. 54*—February, 1901. 16 pp.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS OF AMERICAN RUBBER GOODS.

THE values of exports from the United States of goods classed as "manufactures of India-rubber" during the first ten months of 1901, compared with former years, are stated officially as follows:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
Jan-June	\$300,095	\$200,267	\$920,334	\$1,420,706
July	51,554	91,089	153,488	296,131
August	47,268	102,951	129,264	279,483
September	48,736	173,090	118,029	339,855
October	54,611	165,932	149,409	369,952
Total, 1901	\$502,264	\$733,329	\$1,470,164	\$2,705,767
Same, 1900	443,939	526,878	1,260,961	2,231,778
Same, 1899	(a)206,105	238,815	1,253,388	1,253,388

(a) Included in "All Other" prior to July 1, 1899. [Exports to Hawaii and Porto Rico not included.]

Exports of rubber footwear, in pairs, have been:

MONTHS	1899.	1900.	1901.
January	36,669	46,869	129,454
February	19,160	42,540	56,288
March	17,111	42,881	47,795
April	14,711	24,662	32,683
May	31,744	76,347	47,534
June	61,012	93,143	72,503
July	49,216	100,307	248,082
August	100,497	221,021	260,707
September	65,073	137,844	471,276
October	65,630	229,196	432,687
Total, 10 months	460,823	1,014,810	1,799,009
November	81,209	118,663	
December	79,037	265,812	
Total, 12 months	621,069	1,399,285	

Exports of reclaimed rubber, from January 1 to October 31:

Value	1899.	1900.	1901.
	\$381,176	\$448,698	\$302,695

CANADIAN IMPORTS OF RUBBER MANUFACTURES.

THE value of imports of manufactures of India-rubber and Gutta-percha into Canada during the fiscal year ended June 30 1901, as officially stated, shows an increase both in the imports from the United States and in the total:

IMPORTS.	United States.	Great Britain.	Other Countries.	Total Value.	Duties Collected
Boots and shoes	\$ 70,341	\$ 519	\$ 106	\$ 70,966	\$ 17,583.75
Belting	37,250	165	....	37,415	9,352.68
Clothing and water-proof cloth	52,219	117,754	27	170,000	46,289.77
Hose	53,792	1,038	224	55,054	18,953.81
Packing and mats	40,481	938	204	41,623	14,156.93
Sheeting	264	156	....	420	92.00
All other	180,243	34,374	21,177	235,794	56,583.50
Total	\$434,590	\$154,944	\$21,738	\$611,272	\$163,012.44
Total, 1900	\$401,867	\$118,111	\$19,083	\$539,061	\$149,006.80
Total, 1899	359,037	119,523	15,130	463,690	134,717.69
Total, 1898	255,525	(a)	147,706	403,231	112,688.41
Total, 1897	209,776	(a)	110,127	313,903	....
Total, 1896	217,536	(a)	139,745	357,281	....

(a) Included in "Other Countries."

There may also be noted the imports of the following articles, not classified by the Canadian customs as "rubber goods," but having a relation to the industry:

IMPORTS.	United States.	Great Britain.	Other Countries.	Total Value.	Duties Collected.
Webbing, elastic and non elastic	\$82,773	\$53,309	\$2,618	\$138,700	\$24,529.07
Stockinettes, for rubber footwear	39,820	10,442	....	50,262	7,154.90
Duck, for rubber belting and hose	102,279	37	....	102,316	free.
Rubber thread, elastic	2,109	....	....	2,109	free.

The exports of Canadian rubber manufactures were somewhat smaller than in the preceding year. The distribution was as follows:

To—	Value.	To—	Value.
Australasia	\$56,938	Chile	216
Great Britain	15,690	United States	57,772
Newfoundland	15,560		
Other British possessions	1,788	Total	\$151,656
St. Pierre	410	Total, 1900	170,488
Germany	2,015	Total, 1899	133,332
Other Europe	1,167	Total, 1898	77,685
China	100	Total, 1897	26,121

Such exports to Australasia increased by \$29,373 and to the United States decreased by \$51,039.

The figures relating to imports of crude India-rubber published in THE INDIA RUBBER WORLD of October 1, 1901 [page 7] complete the statistics relating to rubber and rubber goods in the published official returns for the fiscal year ending June 30, 1901.

NEW AUSTRALIAN TARIFF.

The new tariff schedule of the Commonwealth of Australia which went into effect provisionally on October 12—being subject to modifications by the federal parliament—embraces the following *ad valorem* duties on India-rubber goods:

Rubber boots and shoes	25 per cent.
Cloths made waterproof with rubber	20 per cent.
Rubber and other hose, and manufactures not elsewhere included, in which rubber forms a part, including cycle and vehicle tires	15 per cent.

Imports exempt are Crude rubber, Rubber waste, Hard rubber in sheets, Rubber thread, and Elastics for boots and apparel.

The former tariff on tires was 10 per cent. *Bicycling World* (New York) prints a Melbourne letter stating that upon the announcement of the new rates, Dunlop tires went up \$1 a pair, but within three weeks were reduced by half a dollar, the company "sharing the increase with the agents." "The Dunlop concern, however, has not the monopoly that the parent house has acquired in the United Kingdom, and, although the goods are generally accepted as being the best, about a dozen smaller makers do a fairly prosperous trade."

RUBBER SHOE TRADE IN GERMANY.

THE German imperial statistical office gives the following details relative to the import and export of rubber boots and shoes for the first nine months of two years past—weights being given in kilograms and values in marks:

FROM—	1900.	1901.	TO—	1900.	1901.
Great Britain	26,300	20,800	Belgium	10,400	8,900
Austria-Hungary	30,800	19,500	France	15,800	7,400
Russia	391,200	425,300	Great Britain	116,200	95,200
United States	35,400	50,800	Holland	10,400	....
Other lands	12,200	17,800	Switzerland	6,400	....
			Denmark . . . . .	....	2,700
			Other lands	53,900	35,500
Total	495,900	534,200	Total	213,100	149,700
Value	M2,851,000	M3,072,000	Value	M1,172,000	M823,000

Official Statistics of India-Rubber and Gutta-Percha.—United States.—Fiscal Year 1900-1901.

INDIA-RUBBER.		
I.—Imports of Crude India-Rubber, by Countries.		
FROM—	Pounds.	Value.
<i>Europe:</i>		
Belgium.....	5,151,828	\$ 3,311,776
France.....	379,460	220,248
Germany.....	1,673,234	794,534
Netherlands.....	224,619	115,391
Portugal.....	2,098,741	1,159,234
United Kingdom.....	7,461,673	4,241,959
Total.....	16,989,755	\$ 9,843,142
<i>North America:</i>		
British Honduras.....	46,927	27,017
Central America.....	1,267,615	673,126
Mexico.....	306,691	135,765
West Indies.....	45,578	17,757
Total.....	1,666,811	853,665
<i>South America:</i>		
Brazil.....	31,795,383	16,919,707
Colombia.....	453,174	204,293
Ecuador.....	733,088	335,764
Dutch Guiana.....	5,193	2,361
Peru.....	140	96
Uruguay.....	2,649	1,576
Venezuela.....	67,497	46,738
Total.....	36,057,124	\$17,510,535
<i>Asia:</i>		
British East Indies.....	561,751	247,993
Other Asia.....	88	48
Total.....	561,839	248,041
GRAND TOTAL.....	55,275,629	\$28,455,383
Total, 1899-1900.....	49,377,138	31,376,887
Total, 1898-99.....	51,063,066	31,707,620
Total, 1897-98.....	46,055,447	25,386,010
Total, 1896-97.....	35,574,449	17,457,976
Total, 1895-96.....	36,774,460	16,603,020
Total, 1894-95.....	39,741,607	18,353,121
Total, 1893-94.....	33,767,783	15,077,933
Total, 1892-93.....	41,547,680	17,809,233
Total, 1891-92.....	39,976,205	19,718,219
Total, 1890-91.....	33,712,069	17,856,280

II.—Imports of Crude India-Rubber by Customs Districts.		
AT—	Pounds.	Value.
Boston.....	1,452,985	\$ 811,049
New York.....	53,211,715	27,310,112
Philadelphia.....	23,811	12,322
Mobile.....	11,450	6,002
New Orleans.....	509,106	283,597
San Francisco.....	66,227	31,068
Other ports.....	175	33
Total.....	55,275,489	\$28,455,383

III.—Exports of Crude India-Rubber, by Countries.		
To—	Pounds.	Value.
[Details are inaccessible as yet, but the major part has gone to Canada.]		
Total, 1900-01.....	3,305,906	\$2,302,109
Total, 1899-1900.....	3,751,698	2,760,046
Total, 1898-99.....	2,806,494	1,840,482
Total, 1897-98.....	2,717,318	1,462,973
Total, 1896-97.....	3,437,213	1,749,072
Total, 1895-96.....	2,891,072	1,418,941
Total, 1894-95.....	1,384,048	662,839

IV.—Imports of Manufactures of India-Rubber, by Customs Districts.		
AT—	Pounds.	Value.
Baltimore.....		\$ 41,088
Boston.....		46,883
New York.....		317,114
Philadelphia.....		33,064

AT—	Value.
Hawaii.....	1,164
San Francisco.....	3,860
Chicago.....	22,583
Cincinnati.....	2,643
St. Louis.....	1,680
Springfield, Mass.....	1,794
Newport News.....	1,744
Other ports.....	4,690
Total.....	\$478,663

V.—Imports of Manufactures of India-Rubber, by Countries.

[+ Indicates increase; -- indicates decrease.]

FROM—	Value.
Austria-Hungary.....	\$ 896--
Belgium.....	10 169+
France.....	121,217--
Germany.....	182,432--
Netherlands.....	11,823--
United Kingdom.....	156,097--
Other Europe.....	597--
British North America.....	831--
Mexico.....	19--
West Indies.....	2--
Asia.....	51--
Other countries.....	519--
Total, 1900-01.....	\$478,663--
Total, 1899-1900.....	\$564,083
Total, 1898-99.....	379,309
Total, 1897-98.....	309,247
Total, 1896-97.....	297,963
Total, 1895-96.....	294,228
Total, 1894-95.....	315,902
Total, 1893-94.....	309,308
Total, 1892-93.....	338,435
Total, 1891-92.....	371,580
Total, 1890-91.....	354,645

VI.—Exports of Manufactures of India-Rubber (and Gutta-Percha), by Customs Districts.

FROM—	Belting, Packing, and Hose.	Boots and Shoes.	Other Rubber Goods.
Baltimore.....	\$ 8	\$ 60	\$ 26,663
Bangor.....	1,070	2,727	1,618
Boston and Charleston.....	14,955	261,111	285,146
New York.....	425,966	422,181	357,129
Passamaquoddy.....	3,714	788	455
Philadelphia.....	463	17	1,364
Portland and Falmouth.....		137	
Brazos de Santiago.....			76
Corpus Christi.....			29,352
Key West.....	85		35
Mobile.....	135		89
New Orleans.....	3,471	140	805
Paso del Norte.....	1,539		1,633
Saluria.....	13,142		12,468
Alaska.....	6,394	5,343	1,375
Arizona.....	3,571	436	12,046
Hawaii.....			15
Puget Sound.....	12,106	19,675	14,324
San Diego.....	441	16	254
San Francisco.....	40,494	8,949	75,461
Buffalo Creek.....			58,204
Cape Vincent.....			444
Champlain.....	3,342	483	47,342
Cuyahoga.....			392
Detroit.....	8,110	24	10,450
Huron.....			7,821
Memphremagog.....	8,168	942	14,455
Minnesota.....			2
Montana and Idaho.....	189	13	382
Niagara.....			79,935
North and South Dakota.....	5,012	16	6,254
Oswegatchie.....	1,810	13	7,758
Oswego.....			6
Superior.....	7		3,533
Vermont.....	11,534	954	71,251
Total.....	\$365,726	\$724,015	\$1,727,627

GUTTA-PERCHA GOODS (in value) were imported: From United Kingdom, \$90,939; Germany, \$66,939; France, \$5975; Other countries, \$17; total, \$163,337. Total, 1899-1900, \$254,332. Total, 1898-99, \$115,582. Total, 1897-98, \$156,997. Total, 1896-97, \$97,194.

GUTTA-PERCHA.		
I.—Imports of Crude Gutta-Percha, by Countries.		
FROM—	Pounds.	Value.
Germany.....	125,274	\$59,867
United Kingdom.....	147,816	85,186
British East Indies.....	7,470	5,504
Total, 1800-01.....	280,560	\$130,957
Total, 1899-1900.....	427,678	\$178,616
Total, 1898-99.....	518,939	167,577
Total, 1897-98.....	636,477	159,381
Total, 1896-97.....	1,117,665	100,187
Total, 1895-96.....	3,843,854	178,513
Total, 1894-95.....	1,326,791	122,261
Total, 1893-94.....	498,763	84,340

NOTE.—The largest imports in former years included Balata, Pontianak, etc., which are now no longer classified as Gutta-percha.—Of the total imports this year, 180,711 pounds arrived at New York and 82,884 pounds at Boston.—Exports of crude Gutta-percha were 2955 pounds, valued at \$482.

RUBBER-SCRAP.

I.—Exports of Domestic "India-Rubber Scrap," or Reclaimed Rubber, by Countries.

To—	Value, 1897-98.	Value, 1898-99.	Value, 1899-00.	Value, 1900-01.
Austria-Hungary.....	\$ 300	\$ 2,704	\$ 8,496	\$ 703
Belgium.....	28,682	9,606	2,276	7,923
France.....	22,970	30,706	56,263	48,269
Germany.....	5,179	6,890	16,119	10,204
Italy.....	184	463	2,923	2,734
Netherlands.....		2,600	2,033	
Russia.....		146		
Spain.....	411	8,325	6,140	\$ 3,302
Sweden-Norway.....	98,788	110,747	125,502	130,382
Great Britain.....	95,933	168,568	259,416	200,422
Canada.....	1,373	24,653	9,226	957
Mexico.....	595	1,330	2,214	2,390
Japan.....	314	138	60	442
Other lands.....				
Total.....	\$257,639	\$376,962	\$492,284	\$412,728

[Exports, 1896-97, \$119,440.]

NOTE.—This year some additional exports, from the port of New York, have been classed as "Reclaimed Rubber," the details of which follow, and should be embraced with the above.

To—	Value.
France.....	\$ 53,747
Germany.....	150
Italy.....	7,400
Russia.....	575
Sweden and Norway.....	1,811
United Kingdom.....	165,127
Mexico.....	115
Japan.....	440
Total.....	\$229,565

II.—Exports of Reclaimed Rubber by Customs Districts.

[See note under preceding head, regarding additional shipments from New York.]

FROM—	Value.
Baltimore.....	\$ 1,209
Boston and Charleston.....	10,739
New York.....	112,601
Philadelphia.....	86,778
Champlain, N. Y.....	32,122
Detroit, Mich.....	1,526
Huron, Mich.....	17,851
Memphremagog.....	2,299
Niagara.....	20,708
Vermont.....	125,620
Other ports.....	1,276
Total.....	\$412,728

EXPORTS OF AMERICAN RUBBER GOODS.

NEW TRADE PUBLICATIONS.

FISCAL YEAR ENDED JUNE 30, 1901.

EXPORTED TO—	Belting, Packiog, and Hose.	Boots and Shoes.		Other Goods Value.	Total Value.
		Pairs.	Value.		
EUROPE :					
Austria-Hungary	\$ 1,425	.....	\$ .....	\$ 12,330	\$ 13,756
Azores and Madelra.....	.....	60	102	341	443
Belgium	3,639	34,796	13,833	61,895	79,427
Denmark	4,682	10,460	6,222	9,780	20,584
France	4,382	279,086	117,609	49,763	171,754
Germany	19,146	228,439	97,673	213,266	330,085
Gibraltar .....	.....	.....	.....	224	224
Italy	2,038	412	193	67,581	69,812
Netherlands	1,055	150	104	38,720	39,879
Portugal .....	.....	.....	.....	132	132
Roumania .....	.....	1,728	1,021	.....	1,021
Russia, Baltic	1,498	.....	.....	26,614	27,110
Russia, Black Sea .....	.....	.....	.....	25	25
Spain	904	672	460	6,900	8,254
Sweden, Norway	7,889	435	276	25,266	33,431
Switzerland	1,697	1,580	637	46	2,380
Turkey in Europe.....	.....	19,164	10,667	1,961	12,628
United Kingdom.....	88,245	662,881	291,389	559,248	938,882
Total, Europe.....	\$136,558	1,239,863	\$540,176	\$1,073,092	\$1,749,826
NORTH AMERICA :					
Bermuda	\$ 637	170	\$ 149	\$ 590	\$ 1,376
British Honduras	630	.....	.....	187	817
Nova Scotia, New Bruns..	16,330	9,964	16,415	9,117	41,862
Quebec, Ontario, etc.....	35,555	3,286	2,234	303,259	341,048
British Columbia.....	22,712	9,462	25,029	20,680	68,421
Newfoundland, Labrador.	3,876	16,531	10,212	2,044	36,132
Costa Rica	3,591	15	47	2,098	6,636
Guatemala	2,018	30	24	4,561	6,603
Honduras	1,802	305	148	1,524	3,474
Nicaragua	1,787	24	9	1,204	3,000
Salvador	1,149	108	80	1,303	2,622
Mexico	113,614	5,344	2,526	91,786	207,936
Miquelon, Langley, etc...	649	3,569	5,092	28	5,769
West Indies—British.....	5,767	262	214	1,951	7,872
Danish	92	872	236	298	626
Dutch	74	.....	.....	345	419
French	10	.....	.....	49	59
Haiti	993	72	58	529	1,580
Santo Domingo.....	1,962	162	116	778	2,856
Cuba	41,039	1,932	2,307	44,081	87,427
Total, North America.	\$254,237	52,018	\$ 64,896	\$487,402	\$806,535
SOUTH AMERICA :					
Argentina.....	\$ 13,180	1,885	\$ 1,126	\$ 8,442	\$ 22,748
Bolivia .....	.....	.....	.....	160	160
Brazil	3,905	1,911	1,786	7,059	12,750
Chile	7,217	2,294	1,601	5,542	14,360
Colombia	3,800	3,736	1,479	3,655	8,934
Ecuador.....	3,263	24	97	1,059	4,419
Guianas—British.....	374	.....	.....	302	676
Dutch	241	1	5	145	394
French .....	.....	.....	.....	5	5
Peru	5,436	318	180	3,670	9,286
Uruguay	321	1,252	491	415	1,227
Venezuela	3,219	24	11	2,676	5,906
Total, South America.	\$ 40,959	11,445	\$ 6,776	\$ 33,130	\$ 80,865
ASIA :					
China.....	\$ 2,212	1,634	\$ 2,115	\$ 5,059	\$ 9,386
East Indies—British.....	1,826	.....	.....	3,820	5,646
Dutch	346	.....	.....	169	515
Hong Kong	1,708	1,634	3,023	4,144	8,875
Japan	27,640	29,010	19,496	47,611	94,750
Russia, Asiatic.....	1,400	80	240	587	2,227
Turkey in Asia.....	94	690	298	99	491
Other Asia.....	.....	.....	.....	343	343
Total, Asia	\$ 35,226	33,048	\$ 25,175	\$ 61,832	\$122,233
OCEANICA :					
British Australasia.....	\$ 71,026	120,919	\$ 84,607	\$ 44,004	\$199,637
French Oceania.....	485	116	274	1,023	1,782
Philippine Islands.....	5,111	672	948	11,310	17,369
Total, Oceania.....	\$ 76,622	121,767	\$ 85,829	\$ 56,337	\$218,788
AFRICA :					
British Africa.....	\$ 21,728	765	\$ 867	\$ 15,026	\$ 37,621
Canary Islands .....	.....	.....	.....	82	82
Liberia .....	.....	291	296	.....	296
Portuguese Africa.....	330	.....	.....	249	579
Egypt	66	.....	.....	233	299
Other Africa.....	.....	.....	.....	144	144
Total, Africa.....	\$ 22,124	989	\$ 1,163	\$ 15,734	\$ 39,021
Grand Total, 1901	\$665,726	1,459,100	\$724,015	\$1,727,527	\$3,017,268
Grand Total, 1900.....	[\$541,830	767,104	\$420,746	\$1,405,212	\$2,367,788
Grand Total, 1899	486,586	260,886	260,886	1,504,499	1,765,385
Grand Total, 1898	(a)	391,832	224,705	1,499,157	1,723,862
Grand Total, 1897	(a)	306,026	195,499	1,611,646	1,807,145
Grand Total, 1896	(a)	350,713	216,657	1,642,499	1,859,156
Grand Total, 1895	(a)	383,793	225,986	1,279,156	1,505,142
Grand Total, 1894	(a)	261,657	165,011	1,306,831	1,461,842
Grand Total, 1893	(a)	420,950	252,391	1,367,013	1,609,404
Grand Total, 1892	(a)	231,105	185,570	1,232,497	1,418,067

PICHER LEAD CO. (Chicago) issue a brochure that doubtless will prove of interest in the India-rubber industry, on "Sublimed White Lead in Rubber Compounding," in connection with which compounds are given for the manufacture of various lines of rubber goods, each including the sublimed lead. [9"×6". 8 pages.]

BETZLER & WILSON (Akron, Ohio) have issued an illustrated catalogue for 1901-02, of their Fountain Pens, penholders, and hard rubber turned goods, which embraces a surprising variety of attractive styles in this line of goods. It is evident that there are fountain pens and fountain pens, in the matter of appearance, and doubtless also in the matter of merit. [7 7/8"×5 3/8". 28 pages.]

UNITED STATES RUBBER CO. issue a net price list of "Tennis, Yachting, and Gymnasium Shoes," for 1902, which shows no change from the corresponding list of last year.

THE SUPERIOR RUBBER TYPE CO. (Chicago), dealers in the various goods connected with the rubber stamp and rubber printing type trade. Their illustrated catalogue No. 6—"Superior Solid Rubber Type" [6 1/8"×9". 64 pages]—contains samples of type faces in great variety. Their catalogue No. 9 [6 3/4"×9 3/4". 118 pages] is devoted to "Rubber Stamp Supplies," the number of which is much greater than might be supposed by one not familiar with this branch of business. These catalogues are accompanied by circulars of "Superior Sign Markers" and other specialties of the company named.

A NEW CATALOGUE FROM LEIPSIK.

THERE is no rubber goods catalogue published that is more comprehensive—in the branch to which it is devoted—or better arranged than the fifth edition of the "Haupt-Preis-Liste der LEIPZIGER GUMMI-WAAREN-FABRIK, AKT.-GES., vorm. Julius Marx, Heine & Co." (Leipsik, Germany), bearing date 1902. Some of the American rubber companies, by the employment of artistic printing and the introduction of inks of various colors, have given a certain degree of attractiveness to their catalogues which is lacking in this German list. But, after all, color printing is not essential to describing and illustrating and giving the prices of atomizers, syringes, hard rubber surgical specialties, tobacco pouches, elastic bands, and the like. The Leipsik list is, however, a good specimen of plain printing, with good ink, on good paper, and it forms a substantial volume of 396 pages, 7 1/2"×10 3/8" inches. The list of articles described embraces 7440 items and fills 230 pages, after which 149 pages are devoted to the illustrations, which appear apart from the text. The book contains also eleven full page halftone interior views, illustrating various departments of the factory. The last preceding edition of this list, dated 1895, contained only 218 pages, with 3060 items of production enumerated. A comparison of these figures with those given above will indicate a marked increase in the business of this company. The business was founded in 1864, and the first issue of their catalogue of surgical specialties was dated early in the seventies, since which time their trade has extended to every quarter of the globe.—The last yearly business report of the Leipsik company shows a good condition, with a dividend disbursed of 9 per cent. and a substantial surplus carried forward.

ALSO RECEIVED.

MORRIS & CO., Yardville, New Jersey—The Morris Spring Bottom Duck Baskets. 8 pp.

The Republic Rubber Co., Youngstown, Ohio=[Announcement of forthcoming catalogue.]

B. F. Sturtevant Co., Boston—Sturtevant Forges. 10 pp.

[(a)—Belting, Packiog, and Hose were included in the column of "Other Goods, Value," previous to the past fiscal year.]

HEARD AND SEEN IN THE TRADE.

THE exhibit of one of the big rubber factories at the Pan American Exposition was in charge of a representative who has grown up with the company, so to speak, becoming familiar with rubber from many points of view, but he tells me that he was sorely taxed at times to answer questions put to him by visitors to the fair. Not only did they want information about the secrets of rubber manufacturing, but they thirsted for knowledge regarding the sources and nature and methods of obtaining the raw material. And a traveling salesman of several years' experience said the other day that he found it profitable to read everything available on the subject of rubber, in whatever connection, on account of what seemed to be a growing interest on the part of his customers and many other people in the raw and manufactured material. No doubt one cause of this deepened interest is the fact that practically everybody in the United States who can read has seen references lately to India rubber as a vegetable substance, capable of being produced by cultivation, and at a good profit in the right place.

* * *

ONE hears again, at the beginning of every winter, that the wearing of rubber shoes is likely to decline, on account of the growing use of thick soled leather shoes. Yet in proportion to the amount of snow in recent years, the production of rubber shoes undoubtedly has increased. The number of persons who affect heavy shoes as a fad is greatly outnumbered by those who buy rubbers, even as a necessary evil, in preference to risking their health in times of snow and slush. "I tell the wearers of heavy soled shoes," said a rubber shoe manufacturer, "that they only carry about with them more leather to absorb moisture than people who wear ordinary shoes."

* * *

AFTER the late Colonel Waring made such a reputation for keeping the New York streets clean, somebody—it may have been Robert D. Evans—told him that the profits of the United States Rubber Co. had fallen off \$100,000 a year on account of the lessened call for rubbers. But even under Colonel Waring the street cleaning did not extend to the suburbs which have been growing so rapidly about New York, and the same condition is true of our cities generally—creating a wider demand from the suburbs to offset any falling off in the city trade proper.

* * *

AN importer in New York, asked for an explanation of the decline in receipts of scrap rubber from Europe during the past year, gave two reasons. One was that stocks had been accumulating on the other side of the Atlantic in the hands of dealers who had bought in anticipation of higher prices than later prevailed in America. Their holdings are bound to come on the market, however, and dealers in New York are being pressed with offers of foreign supplies. The importer here quoted did not believe that the lessened imports of European scrap had been due either to reduced collections or to a measurably larger production of reclaimed rubber abroad.

* * *

THERE was one other important reason, however. Considerable rubber scrap had been imported, of a quality which did not prove satisfactory to the reclaimers, who have been careful since to specify that certain sorts will not again be accepted. For instance, the importer referred to spoke of solid rubber carriage tire scrap, of continental origin, as having proved most unsatisfactory. It will be remembered that imported rubber shoe scrap at first met with little favor in the United States, failing to give good results when subjected to the same treatment

as domestic shoe scrap. To-day imported shoes sell at \$20 a ton less than domestic stock, but this is due to the larger proportion of fiber contained in the scrap; the constituent rubber is reclaimed as thoroughly as in the case of any other scrap. But again to quote the importer, he was disposed to think that the dissatisfaction with imported tire scrap resulted less from the method of treating it than from the small percentage of rubber in the compounds.

* * *

REFERRING to the statistics of rubber scrap imports at New York contained in the last INDIA RUBBER WORLD, and showing a decline in 1901 as compared with the preceding year, *The Commercial Bulletin* (Boston) says: "It will be seen that importers got about an average of 6½ cents a pound for that stock, but it should also be borne in mind that they also got a tare of 3 per cent., whereas the domestic dealer gets no tare, having to send his stock 'standard packing,' so that the difference in price per pound between foreign and domestic rubber is less than 1 cent. In spite of this it looks as if the manufacturers and reclaimers had been buying foreign rubbers and letting domestics accumulate until they are forced onto the market. Two years ago there was a tare of 2 per cent on domestic rubbers."

* * *

No matter how much more Balata may be produced, there appears to be no increase in the consumption of this gum in the United States. This fact is the more noticeable in the view of the active part taken by Americans in exploiting Balata almost from the beginning. But Balata is affiliated more closely with Gutta-percha than with India-rubber, and as the use of Gutta-percha has never gained an important footing in the United States as compared with Europe, it is not surprising that the chief consumption of Balata should be found beyond the Atlantic. A New York merchant expresses the opinion that Balata might have come into more general use had it possessed a more distinctive character. It so resembles Gutta-percha, however, that in the main it is used for the same purposes as Gutta, the latter having the preference when "the price is right," and Balata coming toward the front only when Gutta is exceptionally high.

* * *

THE past year or two have seen an unusually large amount of submarine cable building, but without an advance in prices of Gutta-percha to the highest notch. Of course the laws of supply and demand apply to the Gutta-percha trade as elsewhere, but there are some secrets in the means whereby cable making firms obtain their supplies of Gutta-percha that, for the time being, are guarded as jealously as any of their secrets of manufacture. The story is told, that several years ago, when an important new ocean cable was being projected in England, rumors got out that a new rubber compound suited for deep sea insulation had been perfected. The compound was understood to be a secret in the possession of the company that secured the contract for building the cable, and everybody in the trade looked for a rise in rubber, due to the large quantity which the cable would require. Finally, when it became known certainly that Gutta-percha insulation was to be used, and people began to ask "Where are you going to get your Gutta-percha?" the answer was that the necessary supply had been secured quietly while the holders of India-rubber were waiting to sell out at an advance.

* * *

Some towns report a larger trade in rubber footwear already this winter than during the whole of last season, and it looks as if there is to be more snow.

DECISIONS IN TIRE PATENT CASES.

A SOLID TIRE DECISION.

A DECISION was handed down in the patent infringement case, *The Rubber Tire Wheel Co. v. The Goodyear Tire and Rubber Co.*, on November 23, by Judge Wing, in the United States circuit court for the northern district of Ohio, at Toledo. The complaint alleged infringement of United States patent No. 554,675, issued February 18, 1896, to Arthur W. Grant and by him assigned to the Rubber Tire Wheel Co. A supplemental bill was filed by the Consolidated Rubber Tire Co., the purpose of which was to show the relation of that corporation to The Rubber Tire Wheel Co., but the ownership of the patent was alleged to be still in the original complainant. This point, by the way, was disputed in the pleadings, but no serious contention was made on that issue at the hearing.

Judge Wing, in his decision, refers to the opinion of Judge Thomas, in the case of *The Rubber Tire Wheel Co. v. The Columbia Pneumatic Wagon Wheel Co.*, rendered December 27, 1898, in the United States circuit court for the southern district of New York, in which the validity of the Grant patent was sustained. Judge Wing proceeds to say:

In view of the able and elaborate opinion delivered by Judge Thomas, I do not deem it necessary to go into particularities with respect to the reasons for my conclusion. Suffice it to say that, upon an independent examination of the record, I have come to the conclusion, which, in brief, is this: That, while the elements of the complainants' combination are, each of them, old and well known, this particular combination of shape of rubber and of flange, and the position of the retaining wires, has not been shown in any previous patents or other publications.

The opinion proceeds to state that the infringement of the defendants is clear. While they urged in defense that they were operating under a patent issued to Burrows, the proof showed that the device described in the Burrows patent is not that which the defendants had been using in the manufacture of their "wing" tire.

Following this judgment, a permanent injunction was ordered to issue against any further infringement by the Goodyear Tire and Rubber Co., who thereupon presented an application for an appeal to the United States circuit court of appeals. The appeal was allowed, and the Goodyear company signed a *supersedeas* bond for \$100,000, under which they will be permitted to manufacture tires as before, while the case is pending in the court of appeals—this amount to cover all profits and damages that the complainants may prove themselves to be entitled to, in the event that the final decision should be in their favor. The Goodyear company have issued a circular to the trade, guaranteeing protection to their customers, and to THE INDIA RUBBER WORLD they say: "We have every confidence that the finding of the court of appeals will be in our favor upon the question of infringement. In the meantime our business is in no way affected."

THE KELLY TIRE WINS IN FRANCE.

ON November 22 in the third chamber of the Palais de Justice, in Paris, was decided the case of *Boudin v. Rouy*, the former representing The Rubber Tire Wheel Co. (Springfield, Ohio) and the latter a manufacturer, Loubière, of 62, rue Desrenaudes. The suit was one for damages for alleged infringement, by Loubière, of the Grant patent on solid rubber vehicle tires, which, in France, was issued April 10, 1896, under

No. 252,731, the same relating to what is known in America as the "Kelly-Springfield" tire. The decision was for the plaintiff. It had been set up by the defense that each of the parts and processes employed by The Rubber Tire Wheel Co. in the construction of their tire had become public property. Expert testimony, however, established the novelty of certain details, beside which the court held that a novel combination of known means is patentable, provided that the article produced by the combination is of industrial utility. On the other hand, certain claims of the patent were declared invalid, on account of publication in the United States in 1894. But on the whole the court holds the patent valid and to have been infringed by Loubière, who is condemned to pay a preliminary sum of 1000 francs damages, and such further sum as may be fixed by a board of experts, together with all costs. It is understood that an appeal will be made.

TILLINGHAST PATENT DECISION CONFIRMED.

THE United States circuit court of appeals for the first circuit (New England) on December 12 handed down a decision affirming the decree of Judge Colt—of date November 14, 1899—sustaining the Tillinghast patent on single tube pneumatic tires. The patent involved is No. 497,971, granted May 23, 1893, to Pardon W. Tillinghast. The claims in controversy, as they appear in the patent specification, are as follows:

1. A pneumatic tire, consisting of a rubber air tube, and outer covering, substantially as specified, with the ends of the air tube and other component parts securely united by vulcanization, substantially as described, thereby constituting an integral complete tire.
2. A pneumatic tire composed of a rubber tube, an intermediate layer of fabric, and an outer covering of rubber, having all its rubber joints and component parts simultaneously vulcanized together, forming an integral annular tire.

The decision of Judge Colt, referred to above, was rendered in the case of *Theodore A. Dodge v. Fred Howard Porter, et al.*, and the case on appeal is styled *Fred Howard Porter et al., defendants, appellants, v. Single Tube Automobile and Bicycle Tire Co., complainant, appellee*—ownership of the Tillinghast patents having passed to the latter corporation. The case on appeal was heard before Judges Putnam, Aldrich, and Brown, whose opinion follows:

Per Curiam. It was not contended at the hearing either in the court below or before us, that the publication by Boothroyd, of December 3, 1890, anticipated the invention in litigation. Neither are we sufficiently advised whether the record is in condition to properly determine such a contention if made. We give no intimation of what our conclusion would be if, in those respects, the conditions were other than what they are.

We are of the opinion that Claim 2 fully and correctly represents the invention of the patent, and that Claim 1 is too broad to be valid.

With these reservations, after thorough investigation and careful consideration of the record, we concur in the conclusion of the circuit court, and with the line of reasoning by which the conclusion was reached.

The decree of the court below is modified so far as to adjudge Claim 1 invalid, and the case is remanded to that court with directions to proceed accordingly; and the appellee recovers the cost of appeal.

"It is needless to say that we are very much pleased with the recent decision," said a member of the Single Tube Automobile and Bicycle Tire Co. to THE INDIA RUBBER WORLD, "as the sustaining of Claim 2 of the Tillinghast patent No. 497,971 is a complete victory for this company, and all that could have been desired. We are unable to understand why the court felt

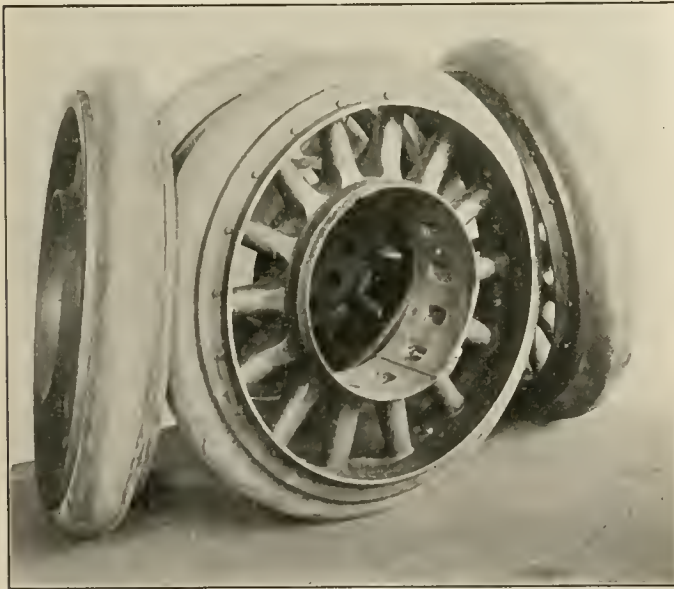
called upon to refer to the Boothroyd publication, as it did in its *Per Curiam*, as it is a matter that the appellants in their brief before Judge Colt admitted the priority of the Tillinghast invention to the Boothroyd publication by a few weeks."

NEW PROCESS FOR MAKING SOLID VEHICLE TIRES.

The Springfield (Ohio) *Democrat* in a recent issue devotes considerable space to a patent which has been granted to Mr. Albert T. Holt, superintendent of the Victor Rubber Co., of Springfield, for a new method of producing solid rubber tires for vehicles. It is stated that by this process the labor item of the production is reduced 80 per cent., and a great many more tires turned out per day than by any process heretofore used. It is understood that the patent, which has been allowed, embraces four claims, which were passed without any objection or suggestion of interference. Applications for patents in foreign countries are now pending.

TIRES FOR UNUSUALLY HEAVY WORK.

THE illustration represents a set of solid rubber tires made by the Calumet Tire Rubber Co. (Chicago) for the Hub Motor Transit Co., of the same city. These tires, weighing 125 pounds each, were designed originally to carry a maximum weight of 18,000 pounds. After the first specifications were given, however, the weight of the vehicle was increased, so that



the maximum weight is now 25,000 pounds. After running perhaps 1000 miles, the tires appear practically as good as new, showing almost no signs of wear, and affording reason for the belief that the same tires should continue to carry their unusually heavy load for another year or two. The tire referred to is the "Price Patent Flange Tire," designed especially for heavy vehicles.

RUBBER TIRES AND THE WHEEL TRADE.—Henry P. Jones, of Newark, New Jersey, in an address before the recent annual convention of the Carriage Builders' National Association, at Cincinnati, on the progress in "Wheels and Wheel Making," made the following reference to the effect of the introduction of rubber tires: "Candidly speaking, we think it has hurt the wheel trade 25 per cent.; that is the rubber tires lessened the call for wheels 25 per cent., owing to the increased life of the wheel, and it has also hurt the carriage maker, principally the smaller maker."

LATE "PACIFIC RUBBER CO." NEWS.

THE "Pacific Rubber Co." continues its philanthropic work of making its stockholders rich—at least on paper. They are the people who promise returns to investors at the rate of 360 per cent. in three years, based upon collections of 20 to 30 pounds of rubber yearly from their wild trees, to say nothing of profits later from cultivated rubber. Early in December the shareholders received a circular of which a copy follows:

UNITED SECURITIES COMPANY.

Capital and Surplus \$1,012,000.

66 Broadway and 17 New Street,
NEW YORK.

STOCKHOLDERS OF THE PACIFIC RUBBER CO.: As treasurer of the Pacific Rubber Co. I have arranged to sail for Mexico on December the 11th, to make a careful personal inspection, and as the season for shipments of rubber and mahogany is at hand, wish to give special attention to arranging such shipments as will make it possible to increase our dividends.

I shall probably prepare my report for the end of the fiscal year while in Mexico, mailing same to each of the stockholders, and touching upon the present condition of the Pacific Rubber Co. and its future prospects, which are unquestionably sound and prosperous.

If any of the stockholders or prospective stockholders desire to communicate with me while in Mexico kindly have them address me in your care. Very truly yours,

R. M. MINER.

Treas. Pacific Rubber Co.

The Boston *Traveler* of December 7 stated that R. M. Miner had been elected president of the Pacific Rubber Co. in place of "Mr. Surbrug," resigned. Mr. Surbrug is described in the Boston paper as "a director in many large corporations in New York," and he no longer has time to devote to the "growing needs" of the Pacific Rubber Co. The Boston paper says also: "Mr. R. M. Miner is well and favorably known both in Philadelphia and New York financial circles, and has long been identified with Wall street interests." The New York city directory contains this information:

Miner R M investments 35 Wall

A letter directed to this address recently by THE INDIA RUBBER WORLD came back indorsed: "Removed. No address. Cannot be found by N. Y. Postoffice." The Boston *Traveler* further reports that Pacific Rubber stock "will doubtless go to par, or \$10 per share, as soon as the extra dividend is definitely decided upon."

RUBBER STATIONERY FOR THE PUBLIC USE.

THE following items of rubber were included in the specifications for stationery for the use of courts and the departments and bureaus of the government of the city of New York, and of the counties comprised within the city limits, for the year 1902. Bids were opened at the office of the *City Record* on December 9, but no contracts were awarded.

FOR THE USE OF—	Erasers.	Bands (Gross).
City Departments.....	5920	6381
New York county ..	1106	1621
Kings county	830	449
Queens county	288	130
Richmond county.....	108	48
Total.....	8252	8629

The only bands specified were "E. Faber's gray." The erasers specified were E. Faber's mainly, with some items of Davidson, Dixon, and Eagle makes. There were also specified:

- 1050 E. Faber's rubber penholders, No. 10.
- 300 E. Faber's rubber penholders, No. 2.
- 166 E. Faber's rubber penholders, No. 44.
- 24 serrated edge 12 inch rubber rules.
- 220 Bailey's rubber sheets, 10x12.
- 24 Bailey's rubber sheets, 12x18.

UTILITY OF "LATEX" TO THE RUBBER TREE.

ONE of the speakers at the dinner of the New England Rubber Club, in November, was Professor George Lincoln Goodale, of Harvard University, whose remarks appear below:

MR. PRESIDENT AND GENTLEMEN OF THE CLUB: The subject on which I have been invited to address you, namely, the Milk Bearing Plants of the Tropics, touches one of the most interesting and difficult problems connected with plant life. That problem, briefly stated, is: Of what possible use to certain plants can be the milky juices which they produce? Most vegetable products have a clear and definite use to the plants which yield them, but it is almost impossible to explain the use to the plant of some of these milky juices. In some cases, the office of the milky sap is that of protecting the plant by its bitterness or its poisonous quality from unwelcome guests; but there are hundreds of species in which there is no suggestion of a poisonous character. In fact, in one instance, the milk is wholesome and so abundant that it is collected and used as food. In a few instances, the milky juices contain a considerable amount of starch and other nutriment, which would lead us to think that the milk vessels serve as store-houses of food for the plant. But there are many instances in which this is not true. Again, some of the milks in plants contain a peculiar kind of digestive ferment which serves an office in digestion, in some obscure way. In one conspicuous instance, this ferment is now separated and employed as a remedial agent for man. There does not seem to be any one explanation which covers all of the known cases.

Now the puzzle comes just here. In the tropics, plants have the fiercest struggle for existence between themselves, and sustain a continual competition of the most strenuous sort. Every species is obliged to avail itself of every advantage, however slight, in its unceasing war. Now what can be the utility of this store of rubber bearing milk to any herb or shrub or tree? In what way can the plant obtain from its presence in its bark, even the slightest ascendancy over its fellows?

It is well known that this fierce struggle for the mastery in the tropics brings about a remarkable isolation of kinds. You may find in a tropical forest or jungle, one of the plants of which you are in search, and then you may have to go a long distance before you find another like it. It is to this striking tendency to separation of sorts, that the principal difficulty in collecting certain of the finer sorts of rubber is attributable. Efforts of the most patient character have been made to bring these better kinds of rubber bearing plants together under cultivation, so that in artificial orchards the work of collection could be much lightened. In the experiment stations which I have seen in Ceylon and Java, experiments are now being conducted to this end, and with considerable prospect of success. Many of the less attractive sorts are now cultivated on this continent, as you all know, with more or less success, and it is the design of the experimenters in Ceylon and Java to carry the investigation out on scientific and commercial lines, with reference to the most promising kinds.

There is some reason to believe that many of the sorts now grown with only a limited success can be improved by careful selection and by other horticultural processes. Our Harvard botanic garden is just now establishing on a small scale an experiment station in Cuba, where such studies are being conducted. One of the first questions which confronts us there is the one to which I referred in the beginning of these remarks: Of what use to the rubber bearing plants, is the rubber itself? If we can get this clue, we can follow out the thread through the labyrinth with greater confidence. We can then under-

stand better the conditions under which the rubber is produced even in small quantities, in the plant, and we can perhaps secure and improve these conditions in cultivation.

If we remember that a seashore weed, the sugar beet, has been led along the lines of selection and intelligent cultivation, until it forms a strong rival to the sugar cane, we can believe that some one of the smaller rubber plants with a short cycle of existence, may perhaps be led along similar lines, until its yield of milky juice would be distinctly profitable. In these experiments and in the work of our Harvard botanical museum, we have the hearty coöperation not only of our foreign correspondents but of our efficient department of agriculture of the United States. I know that we shall have your interest also in this phase of our work.

IS THERE BALATA IN BRAZIL?

A LETTER comes to THE INDIA RUBBER WORLD from a gentleman in Pará, Brazil, who describes himself as the owner of an estate on the line of the railway extending from Pará to Bargança, on which has been discovered "Gutta-percha or Balata." He is under the impression that the tree is the *Mimusops balata*—the species which yields the Balata of commerce in Venezuela and the Guianas. Our correspondent is engaged in forming a company in Pará for exploiting the new product, and has forwarded samples of the gum to the United States, in order to have a valuation placed upon the same.

From time to time for years past reports have reached THE INDIA RUBBER WORLD of the existence of Gutta-percha in the Amazon valley, but it is not until now that samples have been available. Without stopping to question our correspondent's conclusions as to the botanical source of his samples, it is well to note that the product is radically different from any Balata now on the market. It is about the color of Balata, but it is not nearly as tough. In fact, it is quite brittle, and in value would be about half way between Balata and Almeidaína—say 20 cents a pound.

THE PROPERTIES OF FRENCH TALC.

A WESTERN newspaper recently gave considerable space to a description of the sufferings of beginners in certain factories from the flying fragments of powder used in preventing the raw gum from sticking to itself. The writer described the sufferer as being conscious of a burning, smarting sensation in the eyes, which were inflamed and watery and remained so, even after he had left the factory at night. He added, however, that after six months in the factory the flying powder was no longer noticed, and that eyes, ears, and noses might be filled with it without discomfort. The writer evidently referred to the use of French talc in rubber work, doubtless in the department of druggists' sundries. Where he got his idea, however, that it was particularly troublesome to the workmen it is difficult to understand. As a matter of fact, the powder is about as innocuous as air, and the men who work in it year in and year out are apparently the pictures of health and content. The real complaint against French talc comes from the manufacturers who suffer because it settles on cemented surfaces, and, flying everywhere, coats with its brownish whiteness goods that should be jet black, bright vermilion, or some other clear color. If the workmen, and the writer of the article above mentioned, are seriously concerned about the matter, let them set their wits to work to find a cheap method to dispense with it. They could thus save their eyes and line their pockets, for there is ready market for such an invention.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED NOVEMBER 5, 1901.

- N**O. 685,769. Hoofpad. William J. Kent, Brooklyn, New York, assignor to Revere Rubber Co., Boston.
- 686,109. Nipple. Ferdinand Mulhens, Cologne, Germany.
- 686,126. Vehicle wheel. Robert G. Pilkington, St. Louis, assignor of one-half to Anderson Grats, Kirkwood, Missouri.

ISSUED NOVEMBER 12, 1901.

- 686,255. Tire for bicycles. Ben Broughton, Hamilton, Ontario.
- 686,281. Stomach pump. Waite Gerry, Ventura, California.
- 686,319. Self inflating tire for bicycles. Charles G. Morgan, London, England.
- 686,556. Means for securing elastic tires to wheels. James A. Swineheart and William A. Byrider, Akron, Ohio.

ISSUED NOVEMBER 19, 1901.

- 686,858. Means of attaching tire to rim. Alexander MacMahon, New York city.
- 686,901. Wheel tire. Hyman Lieberthal, Chicago.
- 686,965. Rubber vehicle tire. Raymond B. Price, Chicago.
- 686,990. Rubber horseshoe. Joseph H. Schroeder, St. Louis.
- 687,004. Hot water bag. Frank E. Crawford, Lakemills, Wisconsin, assignor of one-half to William A. Engsborg, same address.
- 687,005. Rubber tire setting machine. Calvin F. Darnell and John R. Duncan, Indianapolis, Indiana, assignors by direct and mesne assignments to Vehicle Rubber Tire Machine Co., same address.
- 687,045. Horseshoe pad. Daniel W. Maloney and James J. Weish, White Plains, New York.
- 687,046. Stopper holder for water bags. Dennis B. Martin, New Haven, Connecticut, assignor to the Seamless Rubber Co., same address.
- 687,077. Diving dress. Frederick H. Sprang, London, England.

ISSUED NOVEMBER 26, 1901.

- 687,248. Hollow seamless rubber article. Thomas W. Miller, Akron, Ohio.
- 687,249. Process of forming hollow seamless rubber articles. *Same*.
- 687,502. Horseshoe. George L. Markley, Indianapolis, Indiana.
- 687,560. Vehicle tire. Walter K. Freeman, New York city.
- 687,578. Rubber boot or shoe. Augustus T. Schermerhorn, Newhope, Pennsylvania.
- 687,641. Billiard cushion. Samuel May, Toronto, Canada.

TRADE MARKS.

- 37,391. Pneumatic tires. Punctnot Tire Co., Camden, New Jersey; Philadelphia, and Boston. Essential feature, the word "Punctnot."

DESIGN PATENTS.

- 35,262. Horseshoe pad. Clark P. Wilder, Chicago, Illinois, assignor to Western Horseshoe Pad Co., same address. Issued November 5, 1901.
- 35,315. Ice or hot water bag. Christian William Meinecke, Jersey City, N. J., assignor to Meinecke & Co., New York city. Issued November 26, 1901.
- 35,348. Rubber shoe. Herbert Capron Mason, Woonsocket, Rhode Island, assignor to the Hood Rubber Co. Issued November 26, 1901.
- 21,254. John Titterington, 77, Colmore row, Birmingham. Pneumatic tires. October 23.
- 21,301. Arthur Thomas Collier, 11, Southampton buildings, Chancery lane, London. Elastic tires. October 23.
- 21,328. Samuel Miller, 32, Cannon street, London. Waterproof cover for protecting the holders of electric glow lamps. October 24.
- 21,334. Albert Ottowski, 218, Tottenham Court road, London. Improved rubber or elastic devices to fit the body for taking patterns for garments. October 24.
- 21,400. John Wheeldon, Bank buildings, Sheffield. Means for protecting the air tubes of pneumatic tires. October 25.
- 21,410. Roughsedge Wallwork and Charles Henry Wallwork, Manchester. Improvements in machines employed in the manufacture of cycle tires. October 25.

THE ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

- 18,931. Joe Wassertrudinger, 221, Alleestrass, Barmen, Germany. Improvements in elastic weavings. September 23.
- 18,945. Charles William Scott Crawley, 44, Castletown road, London. Pneumatic tires. September 23.
- 18,964. Albert Charles Blossier, 40, Chancery lane, London. Improvements in the manufacture of sheet India-rubber. September 23.
- 19,004. Edward Hobbins Smith, 9 Exchange chambers, New street, Birmingham. Improvements in pneumatic and other tires. September 24.
- 19,013. James Williams, of The Oriental Waterproof Syndicate, Limited, Hackney walk, London. Improved method of waterproofing and rot proofing textile fabrics. September 24.
- 19,030. William Heale, 111, Hatton garden, London. Pneumatic tires. September 24.
- 19,092. Frank Reddaway, Manchester. Improvements in pneumatic tires and in woven bands particularly adapted for use in the same. September 25.
- 19,093. Albert Hadfield, Mark Henry Green, and Charles Gregory, of The Openshaw Tool Co., and James Dunlop, Manchester. Improvements in pneumatic and like percussive hammers. September 25.
- 19,107. Charles Shortt, Timahoe vicarage, Stradbally. Self detaching tire for cycles. September 25.
- 19,190. Alfred Henry Hornby, East Barnet, Hertfordshire. Pneumatic tires. September 26.
- 19,209. Albert Egerton Legh Slazenger, 8, Quality court, Chancery lane, London. Golf balls. [Frank Slazenger, United States.] September 26.
- 19,233. Edward Augustus Preston, 322, High Holborn, London. Pneumatic tires. September 26.
- 19,258. William Ross, 45, George IV. bridge, Edinburgh. Improvement in air tubes for pneumatic tires. September 27.
- 19,279. Louis Rougette, 81, Avenue Ledru Rollin, Paris. India-rubber horseshoe and method of fastening it. September 27.
- 19,291. Arthur Heaton, Herbert Arthur Dugard, Charles Davies, and Herbert Edgar Davies, Birmingham. Pneumatic tires. September 27.
- 19,541. Charles Miller, 11, Southampton buildings, Chancery lane, London. Vehicle wheels and pneumatic tires therefor. October 21.
- 19,645. Albert Marion Ferguson, 7, Staples inn, London. Single tube detachable pneumatic tire. (Date applied for under Patents, etc., Act, 1883, sec. 103, March 20, 1901, being date of application in United States.) October 2.
- 19,672. William Walter Leavenworth, 45, Southampton buildings, Chancery lane, London. Rubber tires for vehicle wheels. October 2.
- 19,705. James H. Whitehead, Caledon, County Tyrone. Improved cycle and motor car wheel for an unpuncturable tire. October 3.
- 19,713. William Arthur Griffiths, Birmingham. Covers of pneumatic tires. October 3.
- 19,832. Louis Ignatius Perry, 23, Southampton buildings, Chancery lane, London. Elastic tires. October 4.
- 19,862. Herbert Eliwood Irwin, Fife House, Kingston-on-Thames. Pneumatic tires. October 5.
- 19,883. Harry Panzetta and Edwin Childs, 167, Inderwick road, Hornsey, London. Improvements in hot plates for separating rubber from canvas or the like. October 5.
- 20,051. Isaac Seaman McGiehan, 100, Wellington street, Glasgow. Pneumatic tires for vehicles. (Date applied for under Patents, etc., Act, 1883, sec. 103, April 13, 1901, being date of application in United States.) October 8.
- 20,231. Thomas Holey Stone and Edward Tuftt, Birmingham. Pneumatic tires for cycles and vehicles. October 10.
- 20,253. Christian Hamilton Gray, 111, Hatton garden, London. Improvements in or relating to the manufacture of articles formed from plastic and similar substances. October 10.
- 20,532. Emma Steinburg née Hayem, 52, Chancery lane, London. Detachable clips for securing pneumatic or other India-rubber tires to wheels. October 14.
- 20,628. Eugene Louis Joseph Senechal de la Grange, 56, Rue de Londres, Paris. Insulating coating replacing India-rubber and Gutta-percha, for electric wires. October 15.
- 20,646. James Shepherd, 4, South street, Finsbury, London. Elastic tires for wheels. October 15.
- 20,748. Walter Herman Geilinger, 111, Hatton garden, London. Pneumatic tires. October 16.

- 20,826. Louis Ignatius Perry, 23, Southampton buildings, Chancery lane, London. Elastic tires. October 17.
- 20,853. Jens Henri Langgaard, 17a, South Castle street, Liverpool. Elastic wheel tires. October 18.
- 20,878. Claude Leon Boiron and Henry Bourin, 84, Chancery lane, London. Improvements in the manufacture of India-rubber articles. October 18.
- 20,879. *Same*. Improved process for the treatment of waste India-rubber. October 18.
- 21,054. The Self Sealing Air Chamber Co., Limited, and Alfred Franklin, 77, Colmore row, Birmingham. Improvements in tubes made of India-rubber. October 21.
- 21,087. George Croyden Marks, 18, Southampton buildings, Chancery lane, London. Improvements in rubber tires for vehicles. [The Consolidated Rubber Tire Co., United States.] October 21.
- 21,105. William Shone, 18, Buckingham street, Strand, London. Pneumatic ball tires. October 21.
- 21,204. Frederick William Schroeder, 9, Arundel street, Strand, London. Fastenings for securing solid rubber and pneumatic tires to wheels for vehicles, cycles, and motor cars. October 22.
- 21,251. Patrick Barry, 31, Flavell road, Wandsworth, London. Golf balls. October 23.
- PATENTS GRANTED.—APPLICATIONS OF 1900.
- 9,550. Manufacture of lampblack. Browne, H. S., 24, Great Eastern street, London. May 24, 1901.
- 9,814. Rubber tire and method of securing to rim. Gregory, W. D., No. 24 Murray street, New York, United States. May 28, 1901.
- 9,835. Method of attaching rubber tire to rim. Stephens, A. Le R., No. 211 West 106th street, New York, United States. May 21, 1901.
- 9,891. India-rubber horseshoes with embedded bars. Paar, H., Canton, Ohio, United States. May 29, 1901.
- 9,906. Special process for preparing India rubber. Arnaud, A. L., Verneuil, A. V. L., Wehry, A. M. G., and Lebeuf, A. G., all in Paris, France. May 29, 1901.
- 10,046. Puncture proof pneumatic tire. Middleton, Henry A., Erie, Pennsylvania, United States. May 31, 1901.
- 10,232. Balata compositions. Miller, O. A., Brockton, Massachusetts, United States. June 2, 1901.
- 10,420. Pneumatic tires adapted for running on ice or snow. Charles, B., Evansville, Indiana, United States. June 7, 1901.
- 10,505. Ventilated shoe. Pearson, J. J., No. 40 Wall street, New York. June 8, 1901.
- 10,553. Syringe. Mosterts, F., 47, Holzmarkstrasse, Berlin. June 9.
- 10,567. Rubber tire and method of attaching. Steane, W., and Bissell, H. H., Leamington, Warwickshire. June 9, 1901.
- 10,626. Sectional pneumatic tire. Willis, P. R. J., Kingston-on-Thames, Surrey. [Bothwell, De W. H., No. 940 Ellicott square, Buffalo, New York.] June 11, 1901.
- 10,800. Waterproofing fabrics. Serkowski, S., Varsovie, Poland. June 13, 1901.
- 10,805. Combined balls and sponges. Marsh, F., Lee, Kent. June 13, 1901.
- 10,855. Armour plates. Donaldson, A. B., Dunsēith, North Dakota, United States. June 14, 1901.
- 10,959. Pneumatic tires. Wood, W. C., Windsor, Berkshire. June 16, 1901.
- 11,005. Rubber tire and method of securing to rims. Firestone, H. S., No. 594 Forty-sixth street, Chicago. June 16, 1901.
- 11,027. Horseshoes. Wilkinson, H., and Bedford, E., Chapel Allerton, Leeds, Yorkshire. June 18, 1901.
- 11,331. India-rubber horseshoe. Lord, J. M., Kansas City, Missouri, United States. June 22, 1901.
- 11,405. Waterproof coats. Stewart, R. W. (trading as Scottish Central Rubber Co.) and Collins, L., Elgin Mills, Dunfermline. June 23, 1901.
- 11,468. Rubber tire. Parker, M., and Thompson, R., Broad Street House, New Broad street, London. June 25, 1901.
- 11,648. Cover for pneumatic tire. Vellere, A. F. W., Stanley Villa, Portia Green, London. June 27, 1901.
- 11,686. Rubber tire and method of attaching. Naclulich, J. M., 36, Duke street, London, E. C. June 27, 1901.
- 11,931. Waterproof garments. Lipson, S., No. 4 Pepprell place Rosenberg, J., and Rosenberg, H., both of No. 90 Brighton street both in Boston, Massachusetts, United States. July 2, 1901.
- 12,151. Rubber heel tips. Furness, F. G., 43, Lambs Conduit street, and Hanson, C. J. W., 24, Harrington square, N. W., both in London. July 5, 1901.
- 12,269. Method of attaching tires to rims. Wise, W. L., 46, Lincoln's Inn Fields, London. [Calumet Tire Rubber Co., Chicago, Illinois, United States.] July 6, 1901.
- 12,281. Non puncturable pneumatic tire. Raine, J. W., Gateshead-on-Tyne. July 7, 1901.
- 12,318. Self inflating pneumatic tire. Nielsen, J. C. J., Naesby, by Soroe, Denmark. July 7, 1901.
- 12,351. Air tube for pneumatic tire. Sloan, W. S., Boyle, Ireland. July 9, 1901.
- 12,433. Tubeless pneumatic tire. Baker, J., Meacham, Illinois, United States. July 10, 1901.
- 12,574. Pneumatic tire. Vercoe, T. H., 14, Walham Grove, Fulham, London, S. W. July 12, 1901.
- 12,597. Method of attaching rubber tire to rim. Whitaker, F. P., and Whitaker, E. C., both of Providence, Rhode Island, United States. July 12, 1901.
- 12,700. Pneumatic tire. Haddan, H. J., 18, Buckingham street, Strand, London. [Morris, W. B., Dunrea, Manitoba, Canada.] July 13, 1901.

LITERATURE OF INDIA-RUBBER.

A BRIEFER mention than it merited was made in THE INDIA RUBBER WORLD of September 1 [page 348] of the new *Journal d'Agriculture Tropicale*, of Paris, the interest of which to those engaged in the rubber business is that it purposes devoting much attention to the study of rubber yielding species, and also to the conditions bearing upon the cultivation of rubber. Four of the monthly issues of the *Journal* have now come to hand, and they fully bear out the initial promises made by the editor, Monsieur Vitbouchevitch.== Another medium through which may be expected much information of a scientific and practical character on rubber planting, particularly in the Far East, is the *Agricultural Bulletin* of the Straits and Federated Malay States, the first issue of which, dated October, 1901, comes from Singapore. It is edited by Mr. H. N. Ridley, M.A., F.L.S., director of botanic gardens and forests, and replaces the occasional *Bulletin* hitherto issued from the same source.

IN CURRENT PERIODICALS.

REISEBERICHT der Guttapercha-und Kautschuk-Expedition nach den Südsee Kolonien. By R. Schlechter. [Relates to Gutta-percha in British North Borneo, and experiments in planting; illustrated.]=*Der Tropenpflanzer*, Berlin. V-10 (October, 1901.) pp. 457-471.

Reisebericht der Gutta-und Kautschuk-Expedition Nach den Südsee-Kolonien. By R. Schlechter. [Devoted to Java and Borneo.]=*Der Tropenpflanzer*, Berlin. V-II (November, 1901.) pp. 539-543.

The Culture of Rubber in Mexico. By L. C. Groce. [Notes on comparative results of different methods of planting.]=*Modern Mexico*, New York. XI-4 (July, 1901.) pp. 29, 32, 33.

Rubber Planting at La Junta. By James Maunder. [Experiences in nursery making.]=*Modern Mexico*, New York. XII-2 (November 1901.) p. 28.

Rubber Culture in Nicaragua. [Embracing a report by Gordon Waldron, a Canadian interested in planting.]=*Advance Sheets of Consular Reports*, Washington. No. 1135 (September 10, 1901.) pp. 1-3.

Destruction of Pará Rubber by Caterpillars. By F. W. Douglass. (b) Report on the Attack of White Ants, or Termites (*Termes Gestroi*) on Pará Rubber Trees. By W. W. Bailey.=*Agricultural Bulletin of the Straits*, Singapore. I-I (October, 1901.) pp. 26-29.

La Plante Productive du Caoutchouc Donde et sa Signification Pratique. By Dr. Walter Busse. [Translated from *Der Tropenpflanzer*, from which the article has been catalogued in this department.]=*Revue des Cultures Coloniales*, Paris. IX-86 (October 5, 1901.) pp. 213-217.

Caoutchouc en Getah-pertja leverende boomsorten. (Rubber and Gutta-percha yielding species.) By A. H. Berkhout. [Summarizing information contained in Dr. Preuss's "Expedition nach Central-und Südamerika."]=*De Indische Mercur*, Amsterdam. XXIV-44 (November 5, 1901.) p. 817.



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is, therefore, equally effective in the use of oils, tinctures, balsams, and aqueous solutions. A distinctive feature of this vaporizer is that which enables an abundant vapor to be produced with a few minims of liquid, thus obviating the waste of unstable mixtures. This may involve an important item of economy. Besides, the atomizer will not spill or leak its contents in case of accidental overturning. A United

States patent for this device was issued November 12, 1901, to Immanuel Lundquist. It is being placed on the market by the New York Surgical Appliance Co., incorporated October 10, 1901, under New York laws for the purpose of handling this and certain other new specialties. Their address is No. 1244 Broadway, New York. The retail price is \$1.50.

THE "SOLID COMFORT" INVALID RING.

A PROGRESSIVE New York house that has already produced many advanced specialties for invalids, has just given to the world a newly patented invalid ring, called the "Solid Comfort," a cut of which is shown below. In general appearance it does not differ greatly from the old style round rubber ring, although those who know about invalid rings will appreciate at a glance the advantage of the peculiarly shaped oval center.



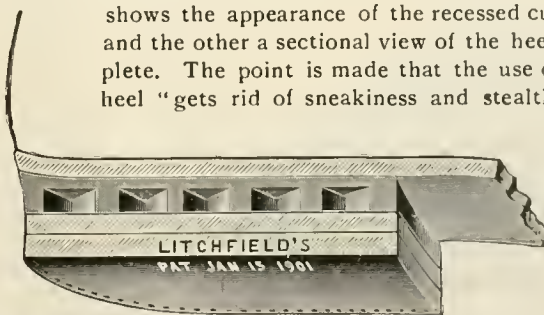
When in use, the old style ring with round center swells up in front and back, causing an uncomfortable pressure against portions of the body of the user. This not only gives the user an uncomfortable feeling, but is said by physicians to be a frequent cause of irritation in instances of gynecological or

rectal affections. This new cushion avoids these difficulties. Another serious objection to the old style ring or cushion with round opening is that there is no room for ventilation when the patient sits on the cushion, the opening being entirely covered when in use. With the oval center cushion, the buttocks cover only the center part of the opening, leaving the front and back parts open, thus securing perfect ventilation. There being no pressure in the front and back, constriction of the parts is avoided. The cushions have been shown to a

number of physicians, prominent trained nurses, and hospital superintendents, all of whom appreciate the benefits of this new style invalid ring. Five or six leading manufacturers have already made arrangements with Meinecke & Co. (New York), who control the patents, to manufacture these rings on a royalty basis. The rings are made in three sizes—13, 15, and 17 inches in diameter—and are to be sold at uniform prices by all manufacturers. In this connection it may be stated that the oval center refers not only to the round rings, as Meinecke & Co. have also secured patents on an oval shaped cushion, a square shaped cushion, and a seat shaped cushion, all with oval center openings. The patents are protected against infringement by The Patent Title and Guarantee Co. (New York).

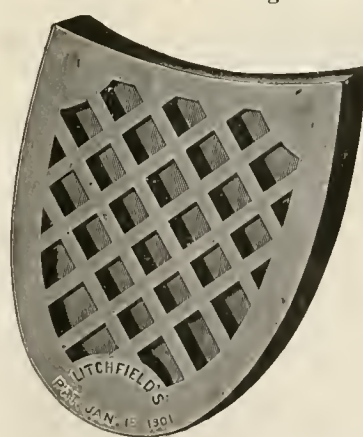
THE LITCHFIELD CUSHION HEEL.

THIS heel, for which a patent was issued January 15, 1901, to John F. B. Litchfield, Worcester, Mass., is a combination of a recessed rubber cushion, coming next to the heel seat, with one or more leather lifts for the tread. One of the illustrations



shows the appearance of the recessed cushion, and the other a sectional view of the heel complete. The point is made that the use of this heel "gets rid of sneakiness and stealthiness,

which are very potent objections to the outside rubber heel, the leather top lifts and slugs making a noise when walking." Besides, the heel is not slippery on wet ice and mud. It possesses the other advantages claimed for rubber heels. When

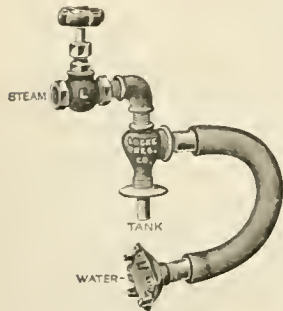


the leather lifts become worn, they can be removed without disturbing the rubber cushion, and new lifts put in place. The rubber cushions, made for the owners of this patent at a Boston rubber factory, are sold to leather shoe manufacturers, who build up the heels with leather to the desired height. Arrangements are now making, however, to cater to the cobblers' and repairing trades by offering the heel

complete. In order to carry on the business of assembling the rubbers and leathers, the owners of the Litchfield patent are looking for a factory site, in some important shoe center, where some of their captial stock can be placed. One town mentioned in this connection is Southbridge, Mass.—The Litchfield Cushion Heel Co. was incorporated in March, 1901, under the laws of Maine, with \$100,000 authorized capital, to exploit the above described heel. Their offices are at No. 828 Colonial building, Boston, and No. 74 Russell street, Worcester, Mass.

THE LOCKE EJECTOR OR TANK FILLER.

THE operation of this device is exceedingly simple. The carriage is backed up to the water supply; the hose, with strainer attached, is thrown into the water, and the little steam valve opened. Water is sucked up by the vacuum, and the tank is filled in a very few minutes, with no material reduction in the steam pressure. As shown in the accompanying cut, the water and steam connections are necessarily abbreviated. About six feet of hose is used, which can be coiled neatly when not in use, and easily carried on top of the tank. The valve is operated from the seat. No bucket is needed.

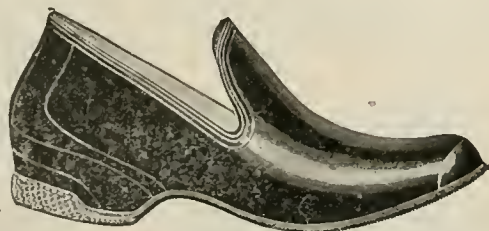
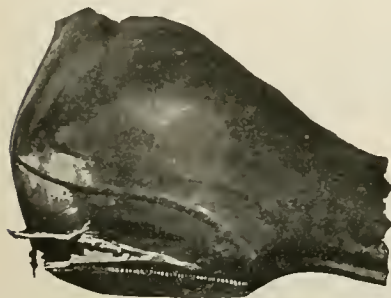


The new device is understood to be meeting much favor from the owners of steam automobiles. The manufacturers are the Locke Regulator Co., makers of steam appliances, Salem, Mass. The cut shown above is supplied from the agency of Charles E. Miller, No. 97 Reade street, New York.

THE "PILGRIM HEEL" RUBBERS.

OF the two shoe illustrations here presented the worn-out shoe gives eloquent evidence of the exceedingly weak spot in the ordinary type of rubber shoes. In other words, the heel breaks away first just about as the illustration shows. The "Pilgrim" heel is designed to overcome this by a reinforcement at

the weakest part. As the manufacturers very happily say—quoting Garfield—"Things don't turn up in this world until somebody turns them up. We have, therefore, 'turned something up' and call it the 'Pilgrim heel.'" A further advantage of the heel is that, it prevents the short fit by not allowing too long a foot to go into a rubber. It is manufactured by the Hood Rubber Co., Boston.



RUBBER STAMPS AND POTTERY WORK.

THE rubber stamp has quietly insinuated its way into almost every industry. Perhaps its most interesting triumph has been in the field of ceramics. The trade mark, usually an intricate coat of arms, is applied to the article before its firing with a stamp made of the very best grade of stamp gum. The inks used are so severe on the rubber, however, that the stamps last only a little while, and the trade in them is really quite considerable.

DICK'S BALATA BELTING is prominently advertised in the Mexican newspapers, as well suited for use in that country. It is said to be in extensive use in the states of Yucatan, Campeche, Jalisco, Durango, and Mexico. A dealer in the city of Mexico announces that he keeps this belting in stock, in sizes from 1 to 20 inches.

BUILDING A CABLE FOR MEXICO.

THE Safety Insulated Wire and Cable Co. (New York) are manufacturing under contract for the Mexican government a submarine cable, to be laid between Vera Cruz, Frontera, and Campeche. The cable is to be rubber insulated, and 472 nautical miles in length; there must be enough to reach a depth of 49 feet in the port of Campeche and 65 feet in the ports of Vera Cruz and Frontera. The cable is to consist of nine copper wires, protected by sixteen galvanized iron wires for deep water and eighteen additional steel wires for the coast. The cable is to be ready for service on April 2, 1902. The contract price is \$600,000, gold, of which \$283,000 is to be paid upon the laying of the cable and the balance within two and four months thereafter.

THE LARGE PARA RUBBER CROP.

[FROM THE "NEW-YORKER HANDELS ZEITUNG," NOVEMBER 9.]

THE manufacturers of rubber boots and shoes, whose business for the past two years, owing to the absence of snow in large quantities, has been poor, and who have been repeatedly compelled to cut their prices in order to rid themselves of accumulated stocks, are much pleased at the receding tendency in the crude rubber market, which has lowered the prices during the last two months to cents per pound. While the leading brand, "Upriver Pará" was, in August last, still quoted at 90 cents, and a year ago at 93 cents, it can be had now at 82 cents, and it is likely that the prices will go below the present level. At these declining prices little animation exists in the market, the manufacturers, in expectation of a large crop this year, and consequent lower rates, withholding any large purchases. It is possible that the drop in the prices of crude rubber will enable the manufacturers to close their yearly account more satisfactorily than had been anticipated.

One of the principals of the importing firm of Reimers & Co. discoursed to a representative of the *New-Yorker Handels-Zeitung* as follows: "The statement that the stocks at first hand in Pará have been disposed of, and that therefore the European markets are retaining a firm position, with an upward tendency, is without foundation. As a matter of fact the stocks of crude rubber at Pará are 1200 tons in excess of those at the same period last year, and at that time the offers were larger than ever before. The European markets show the same dullness which dominates our markets, and reports have been received stating that sales over there had been made at $1\frac{1}{2}d.$ lower than was asked for the same qualities a week ago. The large stores of crude rubber are not traceable as much to a weak market in rubber goods, as to the excessive offers of crude rubber, a much larger crop having been brought in this year than last year and the year before that. That the prices of Pará rubber will show a material change for the better is not to be expected—Africa bringing continually larger quantities of crude rubber into the market, and offers from that source having become an important factor in the rubber situation. Five years ago only about 200 tons of African rubber were brought into the Antwerp market; last year it ran up to 7000 tons, and the crop this year will at least equal that of last year. These heavy offers of African rubber will have a tendency to continually crowd the Brazilian product out of the Antwerp market, and therefore a larger quantity will reach our market here. Under these conditions prices dropped considerably, but, through this the inquiries from consumers have become more animated, the industries using rubber in their manufactures being, generally, well employed."



REMADE DE MALES—A RUBBER STATION ON THE RIVER JAVARY.

[PHOTOGRAPHED BY MR. GEORGE RIDEHALGH FAIRBANKS.]

A TYPICAL RUBBER TOWN IN BRAZIL.

THE view at the head of this page is that of a rubber station on the river Javary, which forms the boundary between Brazil and Peru. It is a town with a population of only about 200, increased at certain seasons by an influx of rubber collectors, but it is nevertheless an important town in the upper rubber region of the Amazon. Here is the seat of a magistrate's court, and a branch of the Brazilian custom house. The name of the place is Remate de Males—"the last [or worst] of the maladies"—a name due to the great mortality from malarial diseases. The town can boast only of a single street, extending between the river and a row of houses, about a mile in length.

The location of Remate de Males is not on the Javary, properly speaking, but on a small tributary of that river, on the Brazilian side, about 30 miles above the junction of the Javary with the river Amazon. A few houses are situated on the opposite side of the river. In the center of the picture appear some rubber warehouses, including that of Messrs. Marius & Levy, *aviadores* and exporters, who have establishments at various points in the Amazon country, and in Liverpool and Paris. The steamers of the Amazon Steam Navigation Co. and other lines proceed up the Javary to the branch stream referred to, turning in at Remate de Males and going no further upstream. The Comptoir Coloniale Français, engaged in gathering rubber and shipping it direct to Europe, have a branch at Remate de Males, also included in the picture, though their principal warehouse is at Nazareth, on the Javary proper, at a short distance below the tributary on which Remate de Males is situated.

The river Javary, by the way, has been a less important producer of rubber of late than formerly, which is due chiefly to the exhaustion of the once rich supplies of *Caucho* on that stream, though it is said that new *Caucho* trees will soon be ready for destruction. The fact that the export duties on rubber are so much higher in Brazil than in Peru has always been an incentive to smuggling along the Javary, which forms the

boundary between the two countries. Much rubber from the Brazilian side has been sent across the river secretly, to be shipped as the product of Peru. A difference in the rate of duties on imports into the two countries has led to similar attempts at defrauding the customs in respect to foreign merchandise. The customs regulations of late, however, have begun to be better enforced.

SOME WANTS OF THE RUBBER TRADE.

[213] A CORRESPONDENT writes: "We have a sample of what is called pure *Pará* tape, used for winding wires for electrical transmission. This article is put up in France, rolled on paper disks the width of the tape, so as to be ready to use on winding machines. Can you put us in communication with the manufacturer of this article?"

[214] From Chicago: "Can you inform us who manufactures or puts on the market hard rubber scrap?"

[215] From a rubber jobbing house: "We should like you to advise us who are the different manufacturers of hard rubber combs in this country."

[216] From a jobber: "Kindly advise us who are the manufacturers of light weight fairy air balls."

[217] From a rubber factory: "Can you give us the addresses of several parties who make marlin, which is used for covering steam hose?"

[218] From Chicago: "Will you kindly name the parties who make the metal connections for syringes?"

[219] From a rubber planting company: "Has any progress been made recently toward the discovery of a substitute for rubber, about which, every now and then, something appears in the newspapers?"

[220] From a jobbing house: "I am desirous of learning the date and number of the United States patent covering Kiel's compound, and of learning whether the same has expired."

[221] From Baltimore: "Would you inform me where I could get a list of the different brands of belting, hose, packings, etc., made by the various manufacturers?"

“COMPOUNDING RELIGION WITH RUBBER.”

TO THE EDITOR OF THE INDIA RUBBER WORLD: In the December number of your journal was an article under the above caption. It attracted my attention for the reason that it contains some criticisms on my methods, and also on the company which I represent. I am aware that a newspaper controversy is not a fair fight, as the editor can have the last word on every issue, and in every issue of his paper. I have no desire to enter upon a trial by newspaper for that reason, but as you have opened your columns to me I accept the courtesy and have a few things to say.

I do not represent the Chiapas company in this matter. It can stand on its merits, and its plantation is not “a myth.” I will say, however, that the statement quoted in your November, 1900, issue, that “thus far it would seem that the planting done by this company has been done only on paper, and that paper not such as will bear very close scrutiny,” was not true when first published, and is not true now. There are many companies which have done more planting on paper than the Chiapas; but I do not think you can name one Mexican plantation company that has done so much planting on its land within the past two years.

As to my pamphlet and circular letter from which you make extracts, followed with adverse criticisms, I would say: it is true that I have quoted from Consul Guenther, as many rubber companies do, but the quotation is not an important one. Our proposition is not built on it, and it would not fall if Guenther's statement should prove to be unreliable.

My method of reaching different classes of people through circular letters does not concern the public, and I question the wisdom and good taste of your journal in referring to the matter at all. The circular letter to ministers is read by an intelligent class of men who understand the proprieties, and who would be the first to detect anything that was unfair or in bad taste. I would be the only one to suffer by my lack of wisdom or propriety.

The statement that “100 pounds of rubber have been taken from an old tree at a single tapping” was made on the authority of an intelligent and reliable gentleman who has spent more than twelve years in the state of Chiapas, and who is well known both in Mexico and the United States. He stated in the presence of several witnesses that he had seen 100 pounds of rubber taken from one tree at a single tapping. He is not interested in any rubber company, but has bought rubber for years, and has been in “the bush” himself, and seen many things that most so-called “practical rubber men” have not seen. I cannot use the gentleman's name without his consent, but I shall believe that he saw 100 pounds of rubber taken from one tree at a single tapping until some one proves that he did not. “Practical rubber men” in New York city or elsewhere do not know all the facts yet in regard to rubber and the rubber tree. The Chiapas company has men in the field, well to the front, and it is possible that they may learn some things about the business that are not generally known. The fact that they are not generally known does not prove them to be untrue.

I have stated that the cost of transporting rubber is an inconsiderable item compared to the value of the product. When the large plantations in Chiapas are able to ship rubber in large quantities, I have reason to believe that the cost of transportation will be less than 1 cent per pound. At the same time none of the matters above referred to are of essential importance. The rubber business can stand on its merits whether these things are true or merely matters of opinion.

There is no attempt in my letters or literature to confound religion with the rubber business in any offensive way. I have not even claimed that I “had religion.” In writing to different classes of people I state certain facts about myself with the purpose of getting my literature read. If sales result they are made on the merits of the proposition. If some elements of practical religion, the golden rule, for instance, were compounded with all kinds of business, including journalism, it would be better for us all.

A. J. SCOTT.

No. 125 La Salle street, Chicago, Ill., December 18, 1901.

MR. L. H. BONESTELL, president of the Chiapas Rubber Plantation and Investment Co. of California, informs THE INDIA RUBBER WORLD:

“Mr. A. J. Scott, of Chicago, has a contract, for a specified time, to sell the ‘harvest certificates’ of our company, each representing one acre of land in our plantation, up to 6000 acres. We do not sell anything to Mr. Scott, but he stands in the relation to us as agent in Chicago and its vicinity. In order to facilitate sales, Mr. Scott has seen fit to organize a separate company, under the name of the Chicago-Chiapas Rubber Plantation Co., which I understand has been incorporated. With regard to the means which he has employed to make sales we have no knowledge; nor are we responsible for any statements contained in his circulars. But all sales made by Mr. Scott are subject to the same conditions as those made from the company's headquarters in San Francisco.”

[THE INDIA RUBBER WORLD has no desire to discourage any legitimate enterprise. On the contrary it desires to see the utmost development of the rubber planting interest. We are unwilling, however, to see the legitimate business of cultivating rubber discredited by such misleading statements as have been put forth by some company promoters without making a protest, even though our attacks should involve “a minister in good standing,” as Mr. Scott, in his circulars, describes himself to be. Thus, it would be a fair inference from advertising matter distributed by Mr. Scott that a yearly profit of \$19,800 per acre would be possible from growing rubber on the plan of the company which he commends to any “man who believes in the Gospel.” This estimate is based upon his assertions that a rubber tree has yielded 100 pounds at a single tapping, that the rubber is worth \$1 a pound, of which 99 cents is profit, and allowing 200 trees to the acre. If Mr. Scott really wants to advance the rubber planting industry, let him deal with the profits possible from a yearly yield per tree of two pounds of rubber, worth in New York at this time 55 cents a pound, and we shall be quite content to let him have “the last word.” Meanwhile we offer as a reward for the identification of the man who saw 100 pounds of rubber gathered from one tapping of a single tree, an edition *de luxe* of “Baron Münchhausen's Narrative.”—THE INDIA RUBBER WORLD believes that a good deal of planting has been done lately by the Chiapas company, and as soon as trustworthy information regarding the same can be obtained, it will appear in these pages.—THE EDITOR.]

THE commercial agent of the Dominion of Canada at Sydney, New South Wales, reports in regard to rubber goods: “This line of manufactures is one that has a promising future. The figures in the returns are no indication of the business done. The agent of one [Canadian] manufacturer states that his sales here last year amounted to £5000; some mistakes have been made on the part of one or two shippers which has hindered trade, but they are not likely to recur. Good orders have been forwarded this year.”

NEWS OF THE AMERICAN RUBBER TRADE.

MR. FLINT OUT OF THE UNITED STATES RUBBER CO.

THIS announcement, emanating from the office of Charles R. Flint, of New York, was made public on December 16:

Mr. Charles R. Flint has resigned as a director of the United States Rubber Co. Mr. Flint states that large and new interests have come into the company and that his own interest at this time was too small longer to justify his attention to its affairs.

On July 25 last Mr. Flint resigned the position of treasurer of the company, which he had held almost from the beginning, and to which he had been re-elected at the annual meeting in May. Mr. Flint's name has been connected closely with the affairs of the United States Rubber Co. since its first inception. He was a party to an agreement, dated February 1, 1892, with the New York banking house of H. B. Hollins & Co., who held options on the rubber shoe factories which later came into the combination, by which agreement Mr. Flint shared in the promoters' profits. He did not, however, sign the incorporation papers, filed in New Jersey, March 30, 1892, nor was he on the original board of directors, as was Mr. Hollins. The original officers, by the way, and several of the directors, were not rubber manufacturers, but financial men who had assisted in organizing the company, and who retired, one by one, as rubber factories were acquired and their former owners were prepared to join the board. The first treasurer was John P. Townsend. At a stockholders' meeting on October 15, 1892, Charles R. Flint was elected a director, immediately after which he became treasurer of the company and a member of its executive committee. On October 27, 1892, was issued the prospectus of the company, offering its shares to the public. From that date Mr. Flint was always recognized as an influential factor in the company's management. He was not to be seen at its offices, however, except at directors' meetings, not even having a desk there. When Senator Lexow undertook an investigation of trusts, some five years ago, he evidently thought, by questioning Mr. Flint, to get at the fountain-head of information regarding the "rubber trust." Mr. Flint, on the witness stand, admitted that he "took part in bringing about the organization," after which the printed record runs:

Q. [By Senator Lexow.] Is it not a fact that you, while not in name, are in fact the head of this United States Rubber Co.? A. I cannot claim that distinction.

Q. Is not that understood? A. Some people may have that idea.

Q. Isn't it generally understood? A. I cannot say.

Q. Why, don't you care to take that flattering unctious to your soul?
A. I shouldn't like to admit it.

Mr. Flint was succeeded as treasurer of the United States Rubber Co. by James B. Ford, a member of the directorate from the beginning.

OUT OF "RUBBER GOODS" ALSO.

At a meeting of the board of directors of the Rubber Goods Manufacturing Co., on December 18, the resignation of Charles R. Flint, both as chairman of the board and as director, was accepted. It is given out that Mr. Flint has determined to devote his attention actively to carrying out his plans for the organization of an international crude rubber company, a charter for which was obtained in New Jersey a year ago. His brother, Wallace B. Flint, treasurer of the Rubber Goods company, also resigned. At the same meeting Arthur L. Kelley, who represents on the board the Mechanical Fabric Co. interests, was

elected president of the Rubber Goods Manufacturing Co., to succeed Charles Stewart Smith, and Alden S. Swan, of the firm of Swan, Finch & Co., was elected treasurer in place of W. B. Flint. Mr. Flint is also credited with the intention of bringing about a combination of the rubber industry on a larger scale than has yet been attempted. The position of chairman of the board of directors, made vacant by Mr. Flint's resignation, had not been filled, at last accounts.

ANOTHER GOODRICH EXTENSION.

PLANS are being drawn for another addition to the buildings of The B. F. Goodrich Co. (Akron, Ohio), on which work will be begun before the close of winter. It is to be a three story brick structure, about 50×250 feet, for general extension and warehouse purposes.

DIAMOND RUBBER CO.—INCREASE OF CAPITAL.

THE Diamond Rubber Co. (Akron, Ohio) having decided upon an increase of capital in November last, a charter has been taken out under West Virginia laws, authorizing the issue of additional shares to the extent of \$1,000,000, to take place at this date. For three years past the company have been adding to their plant and their product, and hence have been confronted with the need of a larger capitalization than \$500,000.—The Diamond company will begin work this month in their new tire building—a five story structure 325×60 feet. The space hitherto devoted to their tire manufacture will now be utilized in the extension of their output of general mechanical goods. Six years ago the company, then capitalized at \$50,000, occupied but one building—that vacated a short time before by the Diamond Match Co. Now they occupy five large buildings at the main factory, and a building at Hale, one mile south of this.

THE GUTTA PERCHA COMPANY'S EXTENSION.

REFERRING to a report in regard to the Gutta Percha and Rubber Mfg. Co. (New York) in our last issue [page 85], it should be said that, through an inadvertence, some errors crept into it. What it was intended to say was that the company are making extensive additions and improvements to their works on Franklin and Skillman avenues, Brooklyn. A new power press is installed, and a Custodis chimney has been erected to accommodate four Babcock & Wilcox water tube boilers of 300 HP each. Their sprinkler system has been enlarged and carried over the entire plant, supplied by a 1500 gallon water tank supported on steel frames. The company have contracted with the Farrel Foundry and Machine Co. for several mills and calenders; also for a large four platen press of new design and great power. All of these various improvements are now about completed.

TRADE MARK LAW IN CANADA.

THE Boston Rubber Shoe Co. recently brought an action in the exchequer court of Canada, against the Boston Rubber Co. of Montreal, for alleged infringement of the former company's trade mark, the essential feature of which are the words "Boston Rubber Shoe Company." This trade mark has been registered in Canada. The Montreal company have used a somewhat similar trade mark, which has not been registered. The defense set up was that the charge that the defendants were using a trade mark essentially identical with that of the plaintiff was not a sufficient allegation to entitle the plaintiff to

judgment. But the court held: "Imitation involves knowledge; and if one, by a trade mark attached to his goods knowingly imitates another's trade mark, I do not see very well how he is to expect a court to find that the thing is done innocently."

PURE GUM SPECIALTY CO. (BARBERTON, OHIO.)

THE business of this company has increased steadily of late, to such an extent that they have been able to purchase the factory building hitherto occupied by them—that of the Barber-ton Bending Works—in addition to which the company have erected a nice, comfortable office building, which they also now occupy. Several new articles have been added to the list of the company's products, including a seamless hot water bottle, syringe bag, and combination water bottle, manufactured under a United States patent granted October 15 last, to their general manager, Harvey F. Mitzel.

CHANGE OF NAME.—INCREASE OF CAPITAL.

THIS announcement was issued from Youngstown, Ohio, December 1:

The Mahoning Rubber Manufacturing Co. begs to announce that, the above name having been found undesirable, the style of the corporation has been changed to The Republic Rubber Co., and all correspondence should be so addressed. The change is simply a change of name, and in no way affects the contracts of the Mahoning Rubber Manufacturing Co.

A certificate to the same effect was filed with the secretary of state of Ohio on December 2. The announcement of still another name for this company, in the last issue of this journal, was premature.—A later report is to the effect that the capital of the company will be increased from \$400,000 to \$600,000.

RUBBER GOODS MANUFACTURING CO.

THE directors met in New York on December 6 and declared the regular quarterly dividend (No. 11) of 1¼ per cent. on the preferred stock of the company, payable out of current earnings on December 17 to holders of record of December 9. No statement was made respecting a common stock dividend, though none has been paid since July 15, 1901.—Following is a record of transactions in Rubber Goods shares on the New York Stock Exchange:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Nov. 30	2,000	27	24½	200	77	77
Week ending Dec. 7	1,802	25	23	1,110	75	71
Week ending Dec. 14	4,900	23	19	1,050	69	65
Week ending Dec. 21	3,950	20½	18½	1,500	73	68

In an article on the distribution of stock of industrial combinations, the New York *Journal of Commerce* gives the following figures regarding the two rubber manufacturing companies that come under this heading:

	Capital Outstanding.	No. Stock-holders.	Average No. Shares.
Rubber Goods Manufacturing Co., common.....	\$16,941,700	550	308
Rubber Goods, preferred.....	8,051,400	675	119
United States Rubber Co., common..	23,666,000	1330	178
United States, preferred.....	23,525,500	3022	78

Commenting on its table, the *Journal of Commerce* says that "in a general way the distribution of stocks has proceeded furthest in the case of companies with good dividend records, although other considerations of a more temporary character at times offset this consideration." In the case of Rubber Goods Manufacturing Co. which shows only a moderate distribution of its common stock, despite the fact that that issue has paid several dividends, there is an exception to this rule,

which may be in part accounted for by the recent cessation of dividends on the common stock. This influence undoubtedly led to considerable liquidation and apparently the stock so sold has been accumulated by fewer interests.

WHOSE RUBBER SHOES ARE THESE?

A BOSTON firm, making a specialty of the sale of "factory damaged and out-of-style rubbers only," depart from their announced custom sufficiently to offer for sale a list of "First Quality Rubbers," described as "fresh, perfect," and "up-to-date style." The advertisement runs:

These goods were manufactured by one of the leading rubber companies, whose goods are exceedingly popular. More than a liberal amount of pure Pará rubber was used in the making and one of the best-known



expert compounders of rubber superintended this, the most important part of the rubber manufacturing business, which ought to insure the best results. We have pledged ourselves to divulge neither the original brand or maker's name, the brand having been nicely smoothed off in order that we may dis-

pose of these goods without disturbing to any great extent jobbers who sell this famous line at full prices. Customers will be furnished, free of charge, with the "Independent Rubber Co." labels like above cut, which they can put on these rubbers. This we would gladly do ourselves, but hurry orders are coming in to such an extent, it would be out of the question to attempt it in any case during the present rush.

CHICAGO HEADQUARTERS FOR RUBBER MEN.

THE Boston Woven Hose and Rubber Co. have issued from their Chicago branch—Nos. 185-187 Lake street—an invitation in the following terms:

"We have recently fitted up in our Chicago store a room for the express use of our customers and friends, who may happen to be in the city. This room contains the daily papers, magazines, writing materials, etc., and we cordially invite you to avail yourself of its use. We are most happy to extend the services of our stenographers to you, and shall be glad to have you make our store your headquarters while in Chicago, have your mail sent here, and we will be glad to give you every facility in our power."

INDEPENDENT RUBBER CO. (AKRON, OHIO.)

LESS than a year ago work was begun in a small building attached to a residence on Bowery street, Akron, in the manufacture of rubber specialties, which has grown until there is now about to be incorporated, to carry on the business, The Independent Rubber Co., with \$5000 capital. They purpose erecting a two story brick factory, 50 X 30 feet, for the manufacture of a full line of gloves and other dipped goods, adding after awhile compounded goods. Louis Stark will be president, John Linn secretary and treasurer, John Dildine superintendent, and Elmer Lundgreen manager.

NEW PLANT OF THE MILFORD RUBBER CO.

In spite of the fact that the Milford Rubber Co. (Milford, Massachusetts), have, during the year past, reached a yearly capacity of 1,000,000 yards of proofed goods, they have been unable of late to keep up with their orders. They therefore have purchased a new plant, a part of which they already occupy, and by the time that this reaches the reader's eye, will be fully equipped and running. The plant is a modern, four-story brick building, 200 X 35 feet, with engines, boilers, sprinklers, electric lights, and every modern convenience. Indeed, so well is the factory equipped, that it is said to have obtained the cheapest insurance rate of any proofing plant in the world. The company, this year, will make a specialty of the proofing of triplex goods, and when their new mixing mills and spread-

ers are set up, they will have a capacity of 100,000 yards a week. They will not, by any means, neglect the trade they have built up in other lines of proofing, but have equipped themselves to fill orders of any amount in the proofing of mackintosh cloth, skirt binding, etc.

END OF THE FARGO CASE (CHICAGO).

THE last has again been heard of the case growing out of the failure of the old shoe jobbing house of C. H. Fargo & Co. [see THE INDIA RUBBER WORLD, June 1, 1901—page 277.] Judge Grosscup, of the United States circuit court in Chicago, on November 19, fixed the attorney's fees in the case. The assets of the Fargo company, amounting to \$125,000, having been turned into cash. The amount paid to the solicitors, in fees and expenses, was about \$28,000. The remainder of the assets was to be distributed among fifty or more creditors. The order, issued in the court was in approval of the report of H. W. Bishop, master in chancery.

AMERICAN CHICLE CO.

THE regular quarterly dividend of 1½ per cent. on the preferred stock and of 2 per cent. on the common stock is payable January 2 to holders of record on December 26. Late market quotations have been 77 bid and 80 asked for common and 78 bid and 80 asked for preferred.—It was announced lately that the capital stock of the company was to be increased, in order to extend both its manufacturing facilities and the control of the raw Chicle trade. The increase was to be from \$3,000,000 to \$4,000,000 in preference shares and from \$6,000,000 to \$8,000,000 in common shares. At a meeting of the shareholders in New Jersey, on December 20, no vote was taken on this question, and the proposition was abandoned.

A TOWN RULED BY A LABOR UNION.

THE strike last summer at the works of the Farrel Foundry and Machine Co. (Ansonia, Conn.)—manufacturers of rubber machinery—had a political outcome that is attracting more than local attention. Among those who were enjoined by the courts from interfering with the non union workmen employed by the Farrel company in the place of the strikers was Stephen A. Charters, president of the Carpenters' union. Coming to be regarded as a martyr in the cause of labor, Charters was nominated for mayor of Ansonia, and in November was elected. As the mayor in that town has the appointment of practically all the other officials—over fifty in number—Ansonia now has a labor union government, in the hands of persons having little experience in public affairs, and the result is being looked for with much interest.

SCRAP RUBBER PRICES DECLINING.

INTERVIEW with a New York dealer, December 13: "The market for scrap is dull, with a declining tendency. A fair quotation for old shoes, standard packing, carload lots, would be 8 cents a pound; possibly business could be done at 7¾ cents. We are still making deliveries at 8½ cents, but on orders booked some time ago. A period of dullness is not unusual just preceding the end of the year, at the season of stock taking in the rubber factories. But the present state of the market is due largely to stocks held over from last season, which may be estimated at 1800 tons in the hands of large dealers, besides an uncertain amount held by smaller operators. Two years ago rubber scrap went up until we paid as high as 11 cents; we heard of business being done at 11¼. No further back than the beginning of 1898 the market had ruled at about 4¼ cents, and the possibility of such advances occurring encouraged a speculative element in the trade. Of course a marked decline followed the high prices I have mentioned, but another big advance seems to have been expected in the fol-

lowing year—that is, last winter—in preparation for which stocks were accumulated, but the highest price reached at that time was only 9@9¼ cents. There were holders who declined these figures, and they have since been piling up costs for interest and storage on stocks that now must be considered in sizing up the market. Similar conditions affect the market for foreign scrap. Our house has been offering imported shoe stock at 6¾ cents, but we now have offers from abroad of 100 tons, for forward delivery, at 6½ cents.

"The prices we have paid for domestic shoes at different periods have been:

MONTHS.	1899.	1900.	1901.
January	6¾	9½@10½	8½
July.....	8½	9	8¼
December.....	11	9 @ 9¼	8

"We are aware that in some cases higher prices have been paid, and of course also possibly little lower prices, but these are the general average for the months named. These prices might not suit the western market, nor, in some cases, the eastern market; but the most that can be done in any summary of the scrap rubber trade is to give average prices."

THE INDIA RUBBER WORLD from time to time has printed comparative statements of the prices of rubber scrap covering a number of years. The record is now brought down to the end of 1901, as follows:

YEAR.	High.	Low.	Average.	YEAR.	High.	Low.	Average.
1887	5½	4½	5	1895	5¼	4	4¾
1888	5¼	4½	4¾	1896	5	4	4½
1889	4¾	3¾	4	1897	5	4	4¼
1890	4¾	3¾	4	1898	6½	4¼	5½
1891	4¼	3	3½	1899	11¼	6	9
1892	3½	2½	3	1900	10¾	8	9½
1893	5½	3½	4	1901	8½	7½	8¼
1894	6	4	5				

Owing to the extraordinary and violent fluctuations during 1899 and 1900 it is practically impossible to fix an average value for a year as a whole, as this would depend on the quantities purchased by different consumers at the varying prices, which is an unknown factor. However, the figures above stated represent the best judgment of important firms in the trade.

Quotations printed in this journal two months ago were 8¼@8¾ cents for domestic and 6¾@7 cents for imported shoes. Just before printing the present issue quotations supplied to us are 8 cents for domestic and 7 for foreign.

CURTAILING OILCLOTH PRODUCTION.

ONE of the factories of the Standard Table Oilcloth Co.—located at Astoria, Long Island, N. Y., and operated formerly by Joseph Wild & Co.—has been advertised for sale. An official of the company, in a published interview, is quoted as saying that, on account of overproduction and keen competition much business had been done, prior to the consolidation in July last, at prices which afforded no profit, even when it was not done at a loss. Besides, the business of jobbers has been demoralized. The new company was a natural outcome of this state of affairs. There is still competition; the Standard company consolidated but seven firms, and there are five good concerns on the outside. The Standard company have decided, therefore, to curtail production by closing the Astoria plant. The new company have not expected to do much in the way of building up an export trade, to afford an outlet for surplus production. While their machinery may be more improved than that in use in England or Germany, any advantage which might result has been more than offset by the higher rate of wages in the United States.—Since the above was written an advance in price has been announced of 5 cents per piece on plain goods and 10 cents on marbles.—The above company, which is a new Jersey corporation, on December 14

qualified to do business in Ohio. The Ohio headquarters will be at Youngstown, where are located the Ohio Oilcloth Co. works acquired by the company. The legal representative in Ohio of the corporation is Henry H. Garlick, of Youngstown, who is also its president.—The principal headquarters of the company is at No. 320 Broadway, New York.

RUBBER DEPARTMENT OF A CHICAGO HOUSE.

THE Peerless Rubber Manufacturing Co.'s general western agents, from the beginning, have been the large hardware and supply jobbing house of George B. Carpenter & Co. *The Radford Review*, a leading Chicago trade journal, in its November issue devoted nine pages to an illustrated history and description of the Carpenter house, giving ample space to the rubber department, where the Peerless products are handled. The manager of this department is George Hawkinson who has been with the Messrs. Carpenter for fourteen years. The special road salesman for this department is J. Hurd Thompson, who has had an experience of twenty-six years in the rubber trade in the northwest. The corps of salesmen has been increased lately by the addition of George N. LeRoux, employed previously by the Quaker City Rubber Co. (Philadelphia.) The Carpenter house dates from 1840; the number of employés has grown to 285; their latest catalogue cost \$10,000 to publish; they claim to hold the record for the sale of steam packings.

UNITED STATES RUBBER CO.

THERE are rumors in the trade that price lists may be revised slightly on this date, to the extent of raising prices on some items which are, proportionately, too low.—The usual date for declaring dividends on the preferred stock is the first Thursday in January.—Transactions in shares of the United States Rubber Co. on the New York Stock Exchange since our last report have been:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Nov. 23	100	15 $\frac{7}{8}$	15 $\frac{7}{8}$	232	52	51
Week ending Nov. 30	1,570	16 $\frac{7}{8}$	15 $\frac{1}{8}$	500	53	52
Week ending Dec. 7	2,810	15 $\frac{1}{2}$	15	1,150	52	51
Week ending Dec. 14	1,360	15	13 $\frac{3}{8}$	1,130	51 $\frac{1}{2}$	49
Week ending Dec. 21	4,510	14	12 $\frac{1}{2}$	735	49 $\frac{1}{4}$	48 $\frac{1}{4}$

The New York *Herald* of December 24 printed an interview with Charles R. Flint relative to the market for Rubber stocks. He was asked whether it was true that James R. Keene—a prominent Wall street speculator—and his son in law Talbot J. Taylor, were "angry" at the ways the stocks had declined.

I have no reason to think so [said Mr. Flint.] The decline in United States Rubber was due to the coming of two open winters, when the demand for rubber boots and shoes was cut down, and in the scramble for the reduced business prices were slashed. Mr. Keene appreciates that, I presume. At one time he helped in a campaign to raise the prices of Rubber stocks, and must have made a great deal of money then. Whether he lost on the decline as much as he made on the rise I do not know.

EMPIRE RUBBER SHOE CO. CLOSE.

LAST month was reported [page 85] a petition in bankruptcy against this company, which, since June, had been operating under lease the shoe factory of the Model Rubber Co. (Woonsocket, R. I.) George H. Emmott, of the Morrell Knitting Co. (Woonsocket) was appointed trustee, at the request of the creditors, and on December 18 he surrendered the lease. There has since been talk of the mill being leased again. Indeed, the *Woonsocket Reporter* learns that the purpose of the Atlantic Rubber Shoe Co., the new \$10,000,000 company, is to lease the Model factory. A representative of Morse & Rogers (New

York), large jobbers of shoes and rubbers, is reported to have visited the mill, with a view possibly to leasing it. The assets of the Empire company are reported very small.

CHANGES IN THE RUBBER FOOTWEAR TRADE.

THE business of P. J. McEnroe & Co., selling agents in Chicago of the "Meyer" and "Jersey" brands of rubber footwear, has been consolidated with the western branch of the Lycoming Rubber Co., of which F. O. Ketterling has been manager hitherto. The combined business will be conducted under the style of The Standard Rubber Shoe Co., with F. O. Ketterling president and treasurer and A. G. Burt secretary, with store and offices at Nos. 240-242 Monroe street.—P. J. McEnroe & Co. have established themselves at No. 148 Franklin street, Chicago, where they will handle the sale of the "Woonsocket" and "Rhode Island" brands of rubber boots and shoes.—Charles B. Allen, who went from the East to Chicago eleven years ago to sell "Woonsocket" rubber boots and shoes, and who has been selling agent there for the United States Rubber Co. since the Woonsocket company was absorbed, after this date will be located at the Boston headquarters of the United States Rubber Co.—still selling "Woonsockets." A dinner was tendered to Mr. Allen, before he left Chicago, by a number of his friends in the local trade.

CALENDARS FOR 1902.

THE first to come to hand this season was that issued yearly by JAMES BOYD & BROTHER, jobbers in mechanical rubbers, of Philadelphia, in which is provided a separate leaf for every week, besides rates of postage, discount tables, and other useful information for the business office.—THE WHITMAN & BARNES MANUFACTURING CO. (Akron, Ohio, and No. 111 Chambers street, New York) issue as usual a calendar printed in large figures, one leaf for each month, in connection with which are advertised their varied line of manufactures, including rubber goods. This calendar merits a repetition of the praise bestowed upon the past issues.—THEODORE HOFELER & CO. (Buffalo, N. Y.) send us a large picture calendar, for hanging on a wall.—LA FAVORITE RUBBER MANUFACTURING CO. (Paterson, N. J.) send a calendar and diary combined, for pocket use—a very convenient booklet.

NEW INCORPORATIONS.

ATLANTIC Rubber Shoe Co., December 18, under New Jersey laws; to manufacture, prepare for market, transport, and market rubber products, and form, promote, and financially assist syndicates and corporations; capital authorized, \$10,000,000, in shares of \$100. The capital to consist of \$2,500,000 in 6 per cent. cumulative preference shares and \$7,500,000 in common stock. After the payment of dividends on the preferred stock, 25 per cent. of any remaining earnings in each year to be set apart as a surplus fund, for the redemption and cancellation of the preferred shares until all these shall have been retired. The principal office and the stockbook to be kept in New Jersey, but the company may transact business in any state or territory or dependency of the United States. The company shall, at least once in each year, cause a shareholder's balance sheet to be prepared, containing information under certain specified headings, the same to be open for inspection, at the company's registered office, by the shareholders in person, for a period of at least seven days before each annual meeting. The certificate of incorporation, instead of being signed by the parties in interest, is signed by the legal representatives of the different interests involved. They are: *Henry M. Rogers*, senior member of Rogers & North, lawyers, Boston; *Francis C. Lowthrop*, lawyer, Trenton, New Jersey; *James B. Dill*, the well known corporation lawyer, New York. The registered

office of the company is that of the New Jersey Registration and Trust Co., East Orange, New Jersey. The articles of incorporation were filed with the county court clerk at Newark, N. J., on December 18.

=The American Vulcanized Fibre Co. (New York), December 4, under Delaware laws; capital, \$3,400,000. This corporation is stated to be a combination of all the hard fibre companies in the United States with the exception of two. The companies embraced are:

The Kartavert Manufacturing Co. Wilmington, Delaware.
The Vulcanized Fibre Co. Wilmington, Delaware.
The American Hard Fibre Co. Newark, Delaware.
The Latimer Fibre Co. Boston, Massachusetts.

The incorporators are Richard B. Constance, Frank L. Arnold, and C. Arthur Coon, of New York city, and Gardiner W. Kimball and J. Ernest Smith, of Wilmington. The remaining companies are the Delaware State Fibre Co. (Elsmere, Del.) and the Delaware Hard Fibre Co. (Wilmington.)

=The Shute's "World Renown" Felt and Rubber Footwear Co., December 10, under Maine laws, to manufacture footwear; capital authorized, \$100,000; nothing paid in. C. S. Shute, of Mattapan, Massachusetts, is president; Horace Mitchell, of Kittery, Maine, treasurer.

=The Berry & Hardman Co. (Belleville, New Jersey), December 17, under New Jersey laws, to manufacture a patented rubber heel and other goods; capital, \$20,000. Incorporators: Charles M. Berry, of New York; Herbert V. Hardman and J. Harry Hardman, Belleville, N. J.

=The Airless Pneumatic Tire and Rubber Co., December 10, under New Jersey laws; capital authorized, \$1,000,000, of which \$5000 is paid in. Incorporators: George F. Maguire, Herbert D. Cohen, and Nathan F. Giffin. Office in New Jersey: No. 765 Broad street, Newark.

=Lincoln Rubber Co., December 14, under Maine laws, to make and deal in rubber heels, lifts, and soles; capital, \$50,000. Edward H. Talbot, of Boston, Mass., president; Levi Turner, of Portland, Maine, treasurer and clerk.

TRADE NEWS NOTES.

THE Hood Rubber Co. (Boston) have increased their capital stock to \$800,000.

=The United and Globe Rubber Manufacturing Cos. (Trenton, New Jersey) are erecting a three story addition, 60 x 78 feet, to their factory buildings.

=The Glendale Elastic Fabrics Co. (Easthampton, Mass.) have installed in their new factory extension nine carloads of machinery from the elastic web factory of J. H. Buckley & Co. (South Norwalk, Conn.), purchased by the Glendale company at the assignee's sale several months ago.

=The Voorhees Rubber Manufacturing Co. (Jersey City, N. J.) have installed recently on their premises, to add to their means of protection against fire, a water tank with 50,000 gallons capacity.

=During the recent smallpox scare in Boston and its vicinity, all the employés of the Fells factory of the Boston Rubber Shoe Co. were required to be vaccinated.

=The People's Hard Rubber Co. (Akron, Ohio), on December 10, according to a local newspaper, had 40 men at work, besides those still employed on the premises by the building contractors, and it was expected that by January 1 the factory would be turning out goods.

=The large rubber factories at Akron, Ohio, in accordance with their custom, and some of the small factories, presented a Christmas turkey to each employé, except that many unmarried persons and some others exercised their option of taking cash. Still, about 2000 turkeys were distributed.

=Work has been begun on the construction of factory buildings for the Stein Double Tire Cushion Co., at Akron, Ohio, under a contract calling for their completion by March 1.

=The Maynard Rubber Corporation, reported in last INDIA RUBBER WORLD, as a new company formed under Connecticut laws, have opened a store at No. 139 Bridge street, Springfield, Mass., where will be carried a general line of rubber goods. The company will make a specialty of the solid rubber tires made by the Hartford Rubber Works Co.

=The Akron manufacturers of rubber balls and other toys say that the holiday trade this season has been the best in their history. "The better known rubber toys become," said one manufacturer, "the more popular they are."

=The contract for the new buildings of the Stoughton (Mass.) Rubber Co., mentioned in the last INDIA RUBBER WORLD, has been awarded to Hosea C. Witt, of the same town. They are to be ready for occupancy by spring.

=The suit for damages of Vincent Tobin against The India Rubber Co. (Akron, Ohio), by whom he was employed, for the loss of a hand in a calender, resulted in a verdict, on November 30, for \$5000.==Frank Hiller has begun suit for \$10,000, at Passaic, New Jersey, against the American Hard Rubber Co., for damages sustained through the breaking of a ladder on which he stood while employed at work in their factory at Butler.

=The mechanical rubber goods business conducted by Winfield S. Knowles (Boston), under the style of Globe Rubber Works, was removed December 1 from No. 72 to No. 60 Pearl street. In the new store is offered a new stock, and a fuller assortment than heretofore. This is the New England agency of the Manhattan Rubber Manufacturing Co. (New York.)

=J. Greenburg, representing the "Goodyear Mackintosh Co.," of Chicago, landed at Joliet, Illinois, recently, rented a store, and began selling at cut prices. The resident merchants complained, and the council met and passed an ordinance, fixing a license for transient merchants of \$75, which Greenburg paid, under protest. He expresses satisfaction, however, over the amount of free advertising that he has got out of the affair.

=William Lapworth & Sons (Milford, Massachusetts) are reported to have ordered \$12,000 worth of new machinery in order to provide for the increased production of elastic webbing necessary to meet their orders.

=Thomas H. Henderson, on leaving the position of foreman of the calendering department of the Boston Woven Hose and Rubber Co. to accept a similar position with Morgan & Wright (Chicago), was presented by the help in the former place with a handsome gold watch chain.

=The rubber factory, to employ 4000 hands, that McKeesport, Pennsylvania, didn't get, last summer, when last heard from was expected to materialize at Arnold, in the same state. It will be necessary first, however, for the citizens of that town to contribute \$20,000. The town of New Kensington also has been threatened with it.

=The Brockton (Mass.) Rubber Cement Scrap Co. advise THE INDIA RUBBER WORLD that during this month they intend to make a change of address, due notice of which will be given as soon as they have decided upon a location. They were the first to make a business of dealing in unvulcanized rubber scrap from the waste of used cement.

=Edmund M. Wood died at Natick, Massachusetts, December 12, in his sixty-fourth year. In addition to many other business interests, he was treasurer of and owned two-thirds of the stock in the George H. Wood Co., large manufacturers of rubber cement.

=Morris & Co. (Yardville, New Jersey) advise THE INDIA RUBBER WORLD that they have received orders from some of the largest mills in the United States for their spring bottom duck baskets, and for their mill trucks as well. The trucks lose none of the spring features, as the wheels are attached to the runners, made from ½-inch steel, thoroughly braced.

=In the United States district court at Cambridge, Mass., on December 26, H. J. Jaquith was appointed trustee in bankruptcy for the business of F. M. Woodward & Co., rubber manufacturers, at Watertown, Mass.

=The branch store of the Diamond Rubber Co. at No. 1717 Broadway—the headquarters of the company's tire trade in New York—was burned out on December 18. Business was not interrupted, however, since a surplus stock was carried at the company's mechanical goods branch, No. 15 Warren street.

=The record of exports of rubber boots and shoes from the United States for 1900 [see page 105] is brought down only to October 31. Returns have since been received for November, amounting to 295,492 pairs, valued at \$118,663. The total since January 1 was 2,094,501 pairs, against 1,133,473 pairs for eleven months in 1900, and 542,042 pairs in the same period of the year 1899.

=The Chicago Tire and Rubber Co. has been organized, Thomas W. Morris, president, and Charles A. Sandberg, secretary and treasurer. They have built and own a factory on West Kinsie street, and are well equipped to take care of anything in molded rubber goods.

=And now there is an asbestos "combine." The H. W. Johns Manufacturing Co. (New York) and the Manville Covering Co. (Milwaukee, Wis.) have been consolidated, as the H. W. Johns-Manville Co., with \$3,000,000 capital. T. F. Manville will be president, and will come to New York. C. B. Manville will be president and, with C. R. Manville, manager of the Western department, will remain at Milwaukee. H. E. Manville, secretary, will also come to New York. F. R. Boocock, of New York, late of the Johns company, will be treasurer.

BUSINESS EMBARRASSMENT.

THE *Boston News Bureau* reported, December 28: "It is understood that a prominent rubber shoe manufacturing concern in Philadelphia will no longer be a factor in rubber shoe competition, owing to unfortunate affiliations with a former official of the United States Rubber Co." At the New York offices of the latter company, THE INDIA RUBBER WORLD was informed that nothing was known in regard to the affairs of George Watkinson & Co.—the only rubber shoe manufacturers in Philadelphia—further than had appeared in the newspapers. It was stated that Mr. Watkinson had not, at least, become affiliated with the United States Rubber Co.==The New York *Sun* on December 31 reported that George Watkinson & Co. (Philadelphia) were preparing to file a petition in bankruptcy; liabilities mentioned at \$1,000,000 and assets approximately \$1,250,000.—Attachments have been obtained against the Crude Rubber Co. (New York), in favor of banks holding two notes of \$500 each, made by George Watkinson & Co., and indorsed by the rubber company.

PERSONAL MENTION.

THE tenth anniversary of the wedding of Colonel and Mrs. Harry E. Converse, of Malden, Massachusetts, celebrated on the evening of December 2, was a most enjoyable occasion for all who participated, in spite of the fact that the invitations to the Converse residence for the celebration had to be followed by others, to the Malden Auditorium, on account of an outbreak of measles among the children of the family. Colonel Converse is the son of the Hon. Elisha S. Converse, founder

of the Boston Rubber Shoe Co., and is closely associated with the affairs of that company, in addition to which he is a director in the United States Rubber Co. Mrs. Converse was Miss Mary Parker and is a very popular young matron of Malden.

=Herr Hans T. W. Clouth, a son of the proprietor of the Franz Clouth Rheinische Gummiwaaren-Fabrik (Cologne, Germany), was a recent visitor to the United States, returning to his home just before the holidays.

=George S. Manning, senior member of the Manning Shoe and Rubber Co., a Boston jobbing house, died at his home in Newton, Massachusetts, on December 14, in his fifty-ninth year.

=Clement Studebaker, who died at his home in South Bend, Indiana, on November 27, was a large stockholder and a director in the Mishawaka Woolen Manufacturing Co., manufacturers of rubber and wool "combinations." Mr. Studebaker was born in 1831 in Pennsylvania, where his father was a manufacturer of wagons in a small way. Later Clement Studebaker found himself further west, at South Bend, where he established the great wagon manufacturing business which, in 1868, was incorporated as the Studebaker Brothers Manufacturing Co., with himself as president. A brother, J. M. Studebaker, connected with the wagon manufactory, is also a director in the Mishawaka factory.

=Mr. Charles F. Hirzel, who died November 23 at his residence in Brooklyn, was senior member of the shipping firm of Hirzel, Feltman & Co., of New York. He was a native of Palermo, Italy, and was in his forty second year. Originally engaged in the fruit importing business, Mr. Hirzel's connections increased until his firm had a large South American and Central American trade. For several years they have been included monthly in THE INDIA RUBBER WORLD'S list of importers of crude rubber at New York.

AMERICAN BICYCLE CO. DIVIDED.

IN order to facilitate the division of the business of this company into cycle and automobile branches, two subsidiary corporations have been formed under the laws of New Jersey. The papers were filed December 20. The stock of both companies is held by the American Bicycle Co., but the latter will relinquish active control of the bicycle and automobile businesses. The management will be in the hands of officials of the new concerns, whose names will figure in the trade. The new corporations are:

American Cycle Manufacturing Co.—Capital, \$8,000,000. Incorporators: Joseph E. Bromley, R. Lindsay Coleman, George H. Pope, Thomas E. Merseles. The following factories will be acquired: Pope Manufacturing Co. (Hartford, Conn.), Lozier Manufacturing Co. (Westfield, Mass.), Crawford Manufacturing Co. (Hagerstown, Md.), and these four in Chicago: Ames & Frost Co., A. Featherstone & Co., Gormully & Jeffery Manufacturing Co., Monarch Cycle Manufacturing Co. A deed transferring the Pope works to the new corporation was filed at Hartford December 26, the consideration being supposed to be \$300,000. Mr. Bromley is temporarily president of the new company.

International Motor Car Co.—Capital, \$2,000,000. Incorporators: George H. Pope, R. Lindsay Coleman, Clarence W. Dickerson, Paul Walton. Factories to be acquired: Lozier Manufacturing Co. (Toledo, Ohio), Viking Manufacturing Co. (Toledo, Ohio), Indiana Bicycle Co.—the "Waverley" plant (Indianapolis, Ind.) Colonel G. H. Pope is temporarily president.

The directors of the two companies are identical: Messrs. Bromley, Coleman, Pope, Merseles, and Walton.

PARA STILL LEADS IN RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your issue of November 1 [page 33] I note the statement that Manáos "has superseded Pará as the most important center of the Brazilian rubber interest." I am sure that this will be unexpected news to the people of both Manáos and Pará. For while it is true that, owing to the new law providing that all rubber produced in the state of Amazonas shall be shipped direct from Manáos, the latter port has gained largely in its export trade, it is not true, and probably never can be, that Manáos "has superseded Pará as the most important center of the Brazilian rubber interest."

It does not follow, because the Amazonas rubber must now be shipped from Manáos, that all the Upriver rubber will also be marketed at that port; quite the contrary, in fact. Pará is still, and doubtless will remain, the great supply depot for the whole Amazon valley. The rubber collectors of the upper river and its tributaries still draw their supplies and get their credits in Pará, and will bring their rubber here in liquidation of their obligations.

But giving Manáos all the benefit of the doubt, and admitting for the sake of argument that the largest possible amount of rubber will hereafter be shipped from that port, it could not possibly exceed one-half the 27,000 tons at which this year's crop is estimated. And, to sum all up, it must always be remembered that the rubber exporters at Manáos are only representatives of the rubber houses at Manáos—branch houses, in other words.

Concerning the financial situation here, it is undeniably true that the hard times have not been exaggerated; indeed, it would be more correct to say that the half has not been told. While it is probably true that the Amazon valley has suffered less from the crisis than other sections of Brazil, yet great distress prevails here, and all forms of public works and enterprises are at a standstill, while there have been scores of failures of people in business and more are expected. The high rate of exchange and the reduced price of rubber has also operated with disastrous effect against the rubber collectors, who thus find their income clipped at both ends, while their expenses remain at the old figure. Perhaps the worst has passed, but among experienced business men here there are two opinions as to that. It is quite true that great areas of good rubber lands are being offered at ridiculously low figures.

For this season, at least, these conditions will not affect the volume of the rubber crop. The collectors and *seringueros* must live, and they hope for a quick return to old conditions, and consequently a big crop may be looked for this season—probably slightly in excess of last season's crop. Already the shipments from Manáos and Pará have been larger by nearly 30 per cent. than in any preceding year at this time, and there are no indications of a falling off in the receipts; though the season may close earlier than usual, owing to the fact that the Upriver crop is coming down nearly two months sooner than customary.

AN AMERICAN.

Pará, Brazil, November 21, 1901.

* * *

ADVICES from another correspondent at Pará are of interest, read in connection with the above letter: "It appears that the authorities in Manáos are becoming convinced that that market is not in a fit condition to cope with the entire upriver crop, in consequence of which the decree, intended to give to Manáos a monopoly of the Upriver trade, is likely to undergo some alteration." Apparently, if Pará is not alarmed, no one else need be on her account,

RUBBER TRADE NOTES FROM EUROPE.

THE Allgemeine Elektrizitäts-Gesellschaft (General Electric Co.), of Berlin, have established at St. Petersburg a branch business under the style of Russische Allgemeine Elektrizitäts Gesellschaft, with a capital of 500,000 rubles (= about \$250,000.)

=At the annual meeting of shareholders of The New Grappler Pneumatic Tyre Co., Limited, in London, on November 25, the accounts presented showed a profit of £4611 2s. 1d. for the preceding twelve months, against a profit of only £2341 for the last seventeen months preceding. The sales during the last year had increased by 40 per cent. It was stated that a good business was being done in motor tires, and that something like 10,000 motor vehicles were now running with "Grappler" tires. A dividend of 5 per cent. on the ordinary shares was declared.

=At the recent general meeting of the Birmingham Pneumatic Tyre Syndicate, Limited, a good year's business was reported, based on an increased sale of tires, especially for use on motors. The company control the "Woodstock" and "Fleetwood" tires. A dividend of 5 per cent. was declared.

=The twenty-first half yearly report of the Amalgamated Society of India-Rubber Workers in England shows a total membership of 406, distributed among six branches as follows: Leyland 136, Birmingham 41, Ancoats 112, Pendleton 51, Chorlton-on-Medlock 28, Newton Heath 38.

=The Goodyear Tire and Rubber Co. (Akron, Ohio) exhibited at the Stanley cycle show, in London, during the last week of November, the entire display of their motor tires that appeared at the recent carriage show in New York.

=A company to be known as Tucks (Ireland), Limited, with £50,000 capital, has been registered in London, for the purpose of acquiring and carrying on the business of Tuck & Co., Limited, at their Dublin branch.

=The *Gummi-Zeitung* mentions a recent conference in Germany, held at the instance of the Reichamt des Innern (department of the interior), in regard to the new rules and laws regulating the process of cold vulcanization of rubber with sulphuric acid. The results have not been divulged, the representative of the government having declared the conference an entirely confidential one. But, inasmuch as a number of the prominent rubber manufacturers took part in the meeting, the *Gummi-Zeitung* assumes that nothing of a burdensome nature will be contained in the new rules. Those who took part were: Senator Maret (Vereinigte Gummiwaren-fabriken, Harburg-Wien), Director Meyer (Ph. Penin A-G., Leipzig-Plagwitz), Director Spannagel (Vereinigte Berlin-Frankfurt Gummiwaren-fabriken), Dr. K. Metzeler (Act.-Ges. Metzeler & Co., Munich), Dr. Gerlach (Continental Caoutchouc und Guttapercha Co.), Daubitz (Fr. M. Daubitz-Rixdorf), Director Brück (Leipziger Gummiwaren-fabrik A.-G.), Director Rathenau (Allgemeine Elektrizitäts-Gesellschaft).

MANUFACTURED RUBBER.—The Philadelphia *Times* lately contained this paragraph: C. E. Platt, treasurer of the Manufactured Rubber Co., says: "The company is not doing satisfactorily, but we have cut down our expenses to an almost nominal sum, and hope for better business in the early future. Our works at Metuchen, New Jersey, turned out 9000 pounds of manufactured rubber during October. We find that the manufacturers are slow to try new ingredients when they are using their own. The introduction of our one patented compound is therefore somewhat slow, while the competition hampers us in our four or five other products."

THE YIELD OF THE PARA RUBBER TREE.

FROM the notes on this subject already printed in these pages it will have been inferred that the yield of rubber per tree is a widely varying quantity. There is one more element that has not been taken into account—the length of the tapping season. This has been stated by most writers as extending from August to January, inclusive, which would give about six months, the limits being fixed by the division of the year into the rainy and the dry seasons, the rains causing the rivers to rise and rendering the rubber *estradas* less accessible. Otherwise, it might be possible to tap the trees all year. As a matter of fact, there is always some rubber tapping going on. For instance, there will be rubber gatherers up stream who, by reason of improvidence, have not the means, at the end of the regular season, to return home, and they will keep at work during the rainy months, though of course at a disadvantage. Besides, there are localities on some of the upper branches of the Amazon where the rivers do not overflow to the same extent as further down the valley, and here the work of collecting rubber can be continued over a greater part of the year.

From Bolivia and the upper Amazon Mr. Edward C. Hirst brings to THE INDIA RUBBER WORLD the information that a rubber district in which 25 arrobas of rubber can be obtained per *estrada* (100 trees, more or less) in a season (six months) is regarded as a rich field, whereas when the yield does not exceed 10 arrobas per season, the workers cast about for something better. Now an arropa may be 25 pounds or 32 pounds, and an *estrada* may embrace 150 trees or less than 100—so that the yearly yield to be counted upon from the average tree still remains to be figured out. But somehow more rubber is gathered each year, and it would hardly be gathered unless the business afforded a profit for those engaged in it, and, after all, the yield per tree is not a matter of essential importance to anybody now engaged in the trade.

ANOTHER CONGO RAILWAY SCHEME.

THE projected Upper Congo railway is intended to be constructed by a company having a capital of \$5,000,000, reported to be already subscribed; on this the state guarantees a minimum interest of 4 per cent. Besides, dividend shares will be allotted to the Congo Free State, which will be entitled to half of any profits over 4 per cent. The arrangement is really an equal partnership on joint account between the Congo state and the company, both in the railway and in the colonial domain to be developed. The state concedes 40,000 square kilometers in the forests of the Aruwimi region, which area will be increased proportionately with each addition to the capital. The equatorial forests of the Aruwimi river are considered the richest in rubber of all the Congo state's forests, but the density of their vegetation—so graphically described in one of Sir Henry M. Stanley's books—renders the country impossible of penetration without a railway. *L'Indépendance Belge* (Brussels) estimates that from eight to ten years will be necessary for constructing 900 miles of the proposed road, and the embankment work and track laying will be undertaken under a special arrangement by Congo state troops. Doubtless the success of the Congo railway now in operation below Stanley Pool, has lent encouragement to the idea of further opening up the Congo rubber resources by means of rail communication. The existing road has paid dividends from the beginning and its ordinary shares of 500 francs are quoted on the Brussels bourse at 1570 francs, in spite of the depressed market for securities generally.

RUBBER HOES FOR NEW YORK SCHOOLS.

THERE are teachers who find amusement for themselves and all the world besides in culling from the work of young pupils surprising examples of "English as she is wrote." No doubt equally good examples might at times be found "higher up." In the catalogue of general supplies required this year for the school system of the city of New York—a ponderous document of several hundred pages, supposed to have undergone the scrutiny of several important departments of the city government—are listed some items of rubber goods, from which we quote *verbatim*:

30 Hoes (Fire) $\frac{3}{4}$ inch diameter, 7 feet long.
35 Hoes (Fire) $\frac{3}{4}$ inch diameter, 8 feet long.
50 Hoes (Fire) $\frac{3}{4}$ inch diameter, 9 feet long.
15,000 ft. Hoes, Rubber, with coupling and nozzle, in 25 and 50 feet lengths.

Perhaps these rubber "hoes" are wanted for some new line of work in the kindergarten department.

CAOUTCHOUC OIL FOR USE IN BOILERS.

A CHEMIST in Hanover, Germany, who has carried out a number of trials with caoutchouc oil, is reported to have come to the conclusion that the action of the oil is purely mechanical, it being practically devoid of fatty acids. Anxious to obtain conclusive proof on this point he tested the efficacy of the oil in practical work. The boilers having been cleaned, they were painted over, or sprayed with the oil on the inside, and worked as usual. The same proceeding was repeated a month later. When these were inspected after two months' constant working, the walls of the boilers were found to be entirely free of incrustation; the oil had also effected a removal of the 10 millimeters thick existing deposit. The sludge was dry and easily expelled. All the other working parts of the boilers, such as tubes, valves, etc., were well preserved. With a large boiler he had only used from five to six kilograms of the oil. The daily application of small quantities, say $\frac{1}{2}$ kilogram, he thinks would be an improvement.

THE BALATA MOVEMENT.

EXPORTS from Ciudad Bolivar, November 5, for Europe, were as follows:

Blohm & Co., for Havre.	kilos. 41,308	
Sprick Luis & Co., for Hamburg.	11,604	
Do. for Southampton.	9,294	
Dalton & Co., for Southampton.	20,271	
Pietrantonì & Co., for Hamburg.	9,529	
Montes & Mönch, for Hamburg.	1,445	
E. Hahn, for Hamburg.	1,821	
Pietrantonì Brothers, for Hamburg.	17,116	
Wenzel & Co., for Hamburg.	7,088	119,546
[Total in pounds, 263,001.]		

Exports from Ciudad Bolivar, November 19, for Trinidad by the steamer *Bolivar*:

Blohm & Co., for Havre.	kilos. 30,713	
Wenzel & Co., for Hamburg.	8,896	
Dalton & Co., for Southampton.	21,901	
M. Palozzi, for London.	2,303	
Sprick, Luis & Co., for Southampton.	3,842	
A. Battistini & Co., for Genoa.	468	
J. Acqualeta, for Hamburg.	1,820	
Pietrantonì Brothers, for Havre.	13,037	
Pietrantonì & Co., for Hamburg.	7,806	90,786
[Total in pounds, 199,729.]		

The *Venezuelan Herald* (Caracas) of November 17 stated that the exports were made at 1.85 bolivars per pound [=36.7 cents, United States currency.] "A sudden drop is expected in view of the large arrivals expected in Europe for the 20th."

REVIEW OF THE CRUDE RUBBER MARKET.

DURING the month prices have been well maintained at the level of our last published quotations. Buying has been active, considering the nearness to the period of stocktaking, owing to manufacturers' requirements for the large volume of business in hand. Though there were large arrivals from Pará at New York during December, little rubber went into store, being sold for the most part in advance. Advices from the initial markets continue to point to a firmer tendency, and like conditions are reported in the European markets. The year just closed was the banner year for rubber imports into the United States. The custom house figures show larger arrivals than in 1899—which year had held the record until now—and up to November 31 the imports, of all grades, had exceeded the figures for 1900 by 5,786,256 pounds. The greater part of this increase was in Pará sorts, which fact should have tended toward higher price levels, but for a corresponding decline in consumption abroad. Doubtless the rubber industry of Great Britain has been unfavorably affected by conditions growing out of the war in Africa, and Germany is experiencing a general business depression, due evidently to such undue expansion of business on a credit basis as has been known at times in the United States. The world's production of rubber has been maintained, and at the moment a wider range of rubber sources is apparent than at any previous date. The decline in the market for shares in some of the African trading companies, however, would seem to indicate a fear that their large returns cannot continue indefinitely, though any exhaustion in that direction is too remote to affect prices to-day. By the way, large purchases on American account continue to be made at Antwerp, and the steamer *Haverford*, arrived at New York on December 26, carried 250 tons of Congo sorts from the Antwerp auctions of December 10. As for the Pará supply, there still exists a difference of opinion as to the probable outcome of the present season as a whole. A Liverpool firm, already quoted in these pages as predicting a heavy falling off in the Amazon output, and sales at 4s. 6d. [= \$1.09] per pound before the end of 1901, wrote on December 14: "No doubt we anticipated matters somewhat, but now we are very near the realization of our predictions. We are not afraid to say that the decrease for January, February, and March will at the very least be 2000 tons." But meanwhile rubber continues to come forward, and the greater part of the trade appears not to be borrowing trouble from the future. Pará receipts for the latter half of each year have been as follows, except that the record for 1901 is brought down only to December 27:

	1898.	1899.	1900.	1901.
Tons.....	11,230	11,085	10,736	13,190

New York quotations on December 30 were higher:

PARÁ.		Guayaquil, strip.....	51 @52
Islands, fine, new....	80 @31	Nicaragua, scrap...	55 @56
Islands, fine, old....	82 @83	Mangabeira, sheet....	42 @43
Upriver, fine, new....	85 @86	AFRICAN.	
Upriver, fine, old....	88 @89	Tongues.....	45 @46
Islands, coarse, new...	50 @51	Sierra Leone, 1st quality	64 @65
Islands, coarse, old...	@	Benguella.	48 @49
Upriver, coarse, new...	66 @67	Cameroon ball.....	46 @47
Upriver, coarse, old...	68 @69	Flake and lumps.....	31 @33
Caucho (Peruvian) sheet	50 @51	Accra flake.....	17 @18
Caucho (Peruvian) ball	56 @57	Accra buttons.....	48 @49
CENTRALS.		Accra s rips.....	54 @55
Esmeralda, sausage...	55 @56	Lagos buttons.....	46 @47

Lagos strips.....	52 @53	EAST INDIAN.	
Madagascar, pinky....	63 @64	Assam.....	59 @60
Madagascar, black....	@	Borneo.....	36 @46

Late Pará cables quote:

Per Kilo.		Per Kilo	
Islands, fine	5\$000	Upriver, fine...	5\$700
Islands, coarse	2\$500	Upriver, coarse.....	3\$900

Manáos advices, same date:

Upriver, fine....	5\$500	Upriver, coarse.	3\$500
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Exchange 12⁷/₁₆ d.

NEW YORK RUBBER PRICES FOR NOVEMBER (NEW RUBBER.)

	1901.	1900.	1899.
Upriver, fine.....	84 @87	93@97	105 @111
Upriver, coarse.....	63 ¹ / ₂ @66	68@70	84 @90
Islands, fine.....	76 ¹ / ₂ @80	89@94	99 @108
Islands, coarse.....	46 ¹ / ₂ @50	52@57	64 @70
Cameté, coarse.....	48 @51	55@56	64 ¹ / ₂ @70

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows:

"During December the demand for paper has been light, as usually at this time of the year a good many banks withdraw from the market, and in consequence of this, and of a firmer money market in general, rates have been strong at 5@6 per cent. for good rubber names, and the smaller ones have been rather neglected."

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.					
	Fine and Medium.	Coarse.	Total 1901.	Total 1900.	Total 1899.
Stocks, October 31... tons	309	36 =	345	579	230
Arrivals, November.....	1020	385 =	1405	874	1390
Aggregating.....	1329	421 =	1750	1453	1620
Deliveries, November.....	821	394 =	1215	874	1314
Stocks, November 30..	508	27 =	535	579	306

PARÁ.			ENGLAND.			
	1901.	1900.	1899.	1901.	1900.	1899.
Stocks, October 31....	375	415	537	880	930	495
Arrivals, November... ..	2645	2172	2600	1055	745	865
Aggregating.....	3020	2587	3137	1935	1675	1360
Deliveries, November. . . .	2610	1977	2777	1050	725	925
Stocks, Nov. 30..	410	610	360	885	950	435

World's supply, November 30.....	1901.	1900.	1899.
Pará receipts, July 1 to November 30.....	3080	3397	2362
Pará receipts of Caucho, same dates	9327	7595	8485
Afloat from Pará to United States, Nov. 30.	763	588	401
Afloat from Pará to Europe, November 30...	925	670	860

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The market during the past week opened firm for Pará sorts with an advancing tendency, due to brisk inquiries. At the end of the week, however, it came to a standstill. For fine Bolivian spot, 8 marks were paid readily, while fine hard cure, for delivery, brought 8.10 marks. A more moderate condition ruled for Bolivian negroheads and Manáos scrappy, which sold at 6@6.10 marks. Fine Mollendo, spot and to arrive, went out of the market at 7.60@6.65 marks. Fine old Mollendo brought 7.80 @7.85 marks. The middle sorts found brisk inquiries, and large transactions were made in Africans, especially Mozambique, Kameruns, and Massais. Sales were made at the following prices, in marks per kilogram;

Mozambique sorts :

Ball, finest red....	7.20@7.35	Sierra Leone twist, fine	5.20@5.25
Ball, fine, red..	7.00	Santos sheet, fine....	4.30@4.35
Ball, good, mixed..	6.25@6.35	Santos sheet, good..	4.00
Ball, good, white...	5.10@5.25	Pernambuco Manga-	
Spindle, fine.....	6.25@6.30	beira	3 50@3.60
Spindle, good	6.00	Ecuador scrap, fine...	5.60
Spindle, medium,		Colombia scrap, fine..	5.50@5.60
sandy.....	3.50	Guatemala slab, fine..	4.20@4.25
Massai niggers, fine,		Borneo, prime, white.	5.00
red	5.85@5.90		

Hamburg, December 3, 1901.

Hamburg advices December 12 show a small decline.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The principal buyers at the two last inscriptions sales have been American. In the open market about 100 tons have changed hands since December 1, including 60 tons of Lopori. The present stocks embrace about 250 tons, remainder of arrivals by the *Philippeville* (November 21), 100 tons previous arrivals of different origin, and about 200 tons, by the steamer *Stanleyville* which arrived yesterday from the Congo; total, 550 tons, the major part of which is destined for our next inscription sale in January.

E. KARCHER & CO.

Antwerp, Belgium, December 13, 1901.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since the 1st of November sales amount to 122 tons, as follows: On the 5th inst. 34 tons Lopori firsts (valuation *f*7.60) at *f*7.80 per kilo; 27 tons Lopori seconds (valuation *f*5.75) at *f*5.95; besides Kassai red, first and second (valuation *f*8.25) at *f*8.32½; Kassai-Loanda red first, at valuation—*f*6.82½; Kassai black from *f*7.27½ to *f*7.52. These prices are 1@2 per cent. above the last sale. Actual stocks here 728 tons, whereof 436 tons will be offered for sale on the 10th inst.

C. SCHMID & CO.

Antwerp, Belgium, December 6, 1901.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The sale of December 10 passed very quietly, 400 tons out of 430 tons offered being sold at an advance of 4 to 5 per cent. on an average above the last inscription sale of October 31. Among the more important lots sold were:

49 tons Lopori I (valuation 7.25).....	7.52½@7.90
31 " Lopori II (valuation 6).....	6.15 @6.35
37 " Upper Congo ball (valuation 7.15)...	7.30
47 " Equateur (valuation 7.25).....	7.30 @7.25
30 " Upper Congo small strips (valuation	
6.45)	6.45
14 " Mongalla strips (valuation 6.85) ..	6.50
20 " Arnwimi (valuation 5.25).....	5.87½
29 " Upper Congo ball (valuation 7).....	7.12½@7.17½

Actual stocks here about 320 tons. It is reported that the next arrivals from the Congo will be moderate.

C. SCHMID & CO.

Antwerp, Belgium, December 11, 1901.

ARRIVALS AT ANTWERP.

NOVEMBER 21.—By the *Philipville*, from the Congo:

Bunge & Co. (Domaine privé Etat du Congo).	kilos.	132,000
Bunge & Co.....(Société Anversoise)		28,000
Bunge & Co.....(Plantations Lacourt)		5,000
Bunge & Co. ....(Comité Spécial Katanga)		3,500
Société ABIR... ..		67,000
Comptoir Commercial Congolais.		27,000
Société Equatoriale Congolaise—Ikélemba.....		5,000
M. S. Cols.....(Centrale Africaine)		6,500
M. S. Cols.....(Produits Vegetaux du Kassai)		16,000
M. S. Cols.....(Cie. Plantation de Société Lnhéfou)		10,500
Ch. Dethier.....(Société la Loanjé)		1,000
Ch. Dethier.. . . . .(Société Belgika)		2,000
Ch. Dethier.....(La Haute Sangha)		5,000
Société Coloniale Anversoise (Belge du Haut Congo)		30,000
Société Coloniale Anversoise.....(Société Lomami)		29,000
Société Coloniale Anversoise.(Sud Kamerun)		700
Cie. Commerciale des Colonies.(La Kassaienne)		2,000
Société pour Commerce Colonial.(Est du Kwango)		3,000
Crédit Commercial Congolais (M. D'Heygere à Gand)		1,600

374,800

DECEMBER 12.—By the *Stanleyville*, from the Congo :

Cie. Commerciale des Colonies. (La Kassaienne) kilos.	900
Société Coloniale du Banienne	102
Cie. Commerciale des Colonies (Cie Française du Congo)	9,530
Société pour Commerce Colonial. . . (Est du Kwango)	3,500
Société Coloniale Anversoise. (Cie. des Mag. Gereraux)	2,106
Ch. Dethier. ....(Société Belgika)	7,200
Ch. Dethier.....(Société la Loangé)	2,500
M. S. Cols.....(Produits Vegetaux du Kassai)	17,000
Société Equatoriale Congolaise.....	3,250
Bunge & Co.....(Plantations Lacourt)	9,117
Bunge & Co.....(Domaine privé Etat du Congo)	60,512
Bunge & Co .. . . . .(Société Anversoise)	5,987
Bunge & Co .. . . . .(Société Isanghi)	6,552
Société A B I R.....	39,600
Société Coloniale Anversoise.....(Société La Djuma)	12,715
Comptoir Commercial Congolais.....	15,775
Comptoir des Produits Coloniaux..(Cie. des Produits de la Sangha)	1,215 197,561

ANTWERP RUBBER STATISTICS FOR NOVEMBER.

[By courtesy of EMILE GRISOR.]

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stocks, Oct. 30. Kilos	266,105	909,047	148,738	334,651	274,410
Arrivals November .	683,521	473,404	150,196	211,776	113,105
Congo sorts.....	660,897	452,215	120,127	192,877	108,858
Other sorts.....	22,624	21,189	30,069	18,899	4,247
Aggregating... ..	949,626	1,382,451	298,934	446,427	387,515
Sales November . . .	106,325	317,805	119,456	176,112	204,300
Stocks, Nov. 30.	843,301	1,064,646	179,778	270,315	183,215
Arrivals since Jan. 1	5,644,282	5,527,900	3,083,529	1,795,722	1,594,274
Congo sorts.....	5,234,931	4,750,277	2,611,717	1,540,634	1,486,842
Other sorts	409,351	777,623	471,812	255,088	107,432
Sales since Jan. 1 ..	5,414,930	4,755,245	3,167,091	1,617,870	1,550,687

Para.

KANTHACK & Co. report [November 23]: "The tone of the rubber market has undergone quite a marked improvement, particularly during the past week, and it may now be said that buyers, for the moment, at least, have entirely ceased to be in any hesitating mood. The competition amongst them has been unusually keen, in consequence of which an advance has taken place, especially for Islands."

The same firm reported later [December 4]: "The pace of the recent upward movement was too vigorous to be kept up, and the rise has given place to a slight reaction during the last week although the tone of the market remains steady at the decline."

German Crude Rubber Imports.

[JANUARY 1 TO SEPTEMBER 30.]

	1898.	1899.	1900.	1901.
Imports.....pounds.	16,715,820	22,830,720	22,523,160	21,246,060
Exports.....	3,902,580	7,777,220	7,353,280	7,695,820
Net Imports.....	12,813,240	15,053,500	15,169,980	13,550,240

SITUATION OPEN.

WANTED.—A competent man who thoroughly understands rubber grinding, compounding and vulcanizing. Steady position to the right man. Address with references, A. B. C., care of THE INDIA RUBBER WORLD. [129]

FOR SALE.

FOR SALE.—One 22×60 Stock and Friction Calender, good as new; used only short time.
 One nearly new 250 horse power Harris-Corliss engine.
 Large Fire Pump, nearly new, and steam and water pipes; little used.
 One 2½×10 Devulcanizer Track and Carriage, and one 2½×15 Track and Carriage.
 One 12×36 Double Geared Grinder.
 One 8×12 Washer.
 One large Sturtevant Blower, No. 8. Also, several smaller Blowers.
 Lot of Pulleys and Shafting, used only a short time.

PHILIP MCGRORY, Trenton, N. J.

Liverpool.

WILLIAM WRIGHT & CO. report [December 2]: "Fine Para, —The market has been fairly active, and, in spite of increased receipts, the tone at the close is firm, with a fair inquiry.—The total increase in the Pará crop to date is 2100 tons. In spite of this, buying in Pará and Manáos continues strong and active, all available supplies being readily sold at current rates.—The Pará receivers still predict a shortage in receipts during the early months of next year, which, according to them, will more than outbalance present surplus; whether this will prove to be the fact remains to be seen, but certainly the active buying leads one to believe that exporters are afraid that this may be so."

London.

JACKSON & TILL, under date of December 2, report stocks:

	1901.	1900.	1899.
LONDON { Pará sorts..... tons —			
Borneo.....	142	217	155
Assam and Rangoon.....	70	31	a 21
Other sorts.....	457	782	443
Total.....	669	1030	619
LIVERPOOL { Pará.....	890	941	431
Other sorts.....	966	1090	739
Total, United Kingdom.....	2525	3061	1789
Total, November 1.....	2602	3040	1860
Total, October 1.....	2502	2846	1831
Total, September 1.....	2736	3170	1988
Total, August 1.....	2944	3645	1878
Total, July 1.....	3128	3653	2247

[a Corrected.]

PRICES PAID DURING NOVEMBER.

	1901.	1900.	1899.
Pará fine, hard.....	3/5 ³ / ₄ @3/7 ¹ / ₂	3/10 ¹ / ₂ @4/1	4/4@4/8
Do soft.....	3/3 ³ / ₄ @3/5 ¹ / ₂	3/9 ¹ / ₂ @3/11	4/3 ¹ / ₂ @4/6 ¹ / ₂
Negroheads, Islands.....	1/11@2/1	2/1 ¹ / ₂	2/8 ¹ / ₂
Do scrappy.....	2/8	2/9 ¹ / ₂ @2/10 ¹ / ₂	3/6 ¹ / ₂ @3/8
Bolivian.....	3/6 ¹ / ₂ @3/7 ¹ / ₂	No sales.	4/5 ¹ / ₄ @4/7 ¹ / ₂
Old Upriver.....		4/0 ¹ / ₄ @4/2	

PARA RUBBER VIA EUROPE.

	POUNDS.
NOV. 25.—By the <i>Campania</i> =Liverpool:	
Reimers & Co. (Fine).....	32,500
NOV. 29.—By the <i>Majestic</i> =Liverpool:	
George A. Alden & Co. (Fine).....	37,000
A. T. Morse & Co. (Caucho).....	22,500
Reimers & Co. (Coarse).....	4,500
DEC. 4.—By the <i>Oceanic</i> =Liverpool:	
George A. Alden & Co. (Fine).....	11,000
Edmund Reeks & Co. (Caucho).....	10,500
A. T. Morse & Co. (Caucho).....	8,000
DEC. 9.—By the <i>Lucania</i> =Liverpool:	
Reimers & Co. (Fine).....	4,500
Reimers & Co. (Coarse).....	5,600
George A. Alden & Co. (Fine).....	11,000
Robinson & Tallman (Fine).....	3,000
DEC. 12.—By the <i>Teutonic</i> =Liverpool:	
George A. Alden & Co. (Fine).....	10,000
Reimers & Co. (Coarse).....	11,500
Reimers & Co. (Caucho).....	7,500
DEC. 16.—By the <i>Etruria</i> =Liverpool:	
Reimers & Co. (Fine).....	10,000
Reimers & Co. (Coarse).....	4,000
DEC. 20.—By the <i>Germanic</i> =Liverpool:	
Reimers & Co. (Fine).....	33,000
Reimers & Co. (Coarse).....	6,500

OTHER ARRIVALS AT NEW YORK

	POUNDS.
NOV. 25.—By the <i>Altat</i> =Savanilla:	
Kunhardt & Co.....	3,500
D. A. De Lima & Co.....	1,000
Jimenez & Escobar.....	800
For London.....	3,000

CENTRALS—Continued.

	POUNDS.
NOV. 25.—By the <i>Louisiana</i> =New Orleans:	
A. T. Morse & Co.....	2,000
A. N. Rotholz.....	1,500
Eggers & Heinlein.....	1,000
NOV. 27.—By the <i>Alliance</i> =Colon:	
Hirzel Feltman & Co.....	8,700
Flint, Eddy & Co.....	7,000
G. Amsinck & Co.....	5,300
A. Santos & Co.....	4,200
Dumarest & Co.....	2,300
Crude Rubber Co.....	1,500
Smithers, Nordenholt & Co.....	1,000
Joseph Hecht.....	800
Edward Mauer.....	600
H. Marquardt & Co.....	300
DEC. 2.—By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.....	4,000
A. N. Rotholz.....	1,100
Eggers & Heinlein.....	1,500
G. Amsinck & Co.....	600
DEC. 3.—By the <i>Penrith Castle</i> =Bahia:	
J. H. Rossbach & Bros.....	17,500
G. Amsinck & Co.....	1,000
DEC. 3.—By the <i>Carib II</i> =Truxillo:	
Eggers & Heinlein.....	10,000
J. W. Wilson & Co.....	3,000
K. Mandell & Co.....	500
H. W. Peabody & Co.....	800
A. S. Lascallas & Co.....	200
DEC. 3.—By the <i>El Rio</i> =New Orleans:	
A. N. Rotholz.....	1,500
A. T. Morse & Co.....	1,000
Eggers & Heinlein.....	500
DEC. 4.—By the <i>Atbos</i> =Greytown:	
A. P. Strout.....	4,500
Roldan & Van Sickle.....	2,200
Jimenez & Escobar.....	2,000
G. Amsinck & Co.....	1,200
Kunhardt & Co.....	1,200
L. Johnson & Co.....	500
For London, etc.....	3,500

CENTRALS—Continued.

	POUNDS.
DEC. 4.—By Pennsylvania RR.=New Orleans:	
R. F. Cromwell.....	2,200
A. P. Strout.....	1,500
G. Amsinck & Co.....	1,200
Joseph Hecht.....	700
Mosie Brothers.....	400
DEC. 7.—By the <i>City of Washington</i> =Mexico:	
H. Marquardt & Co.....	2,800
Fred. Probst & Co.....	1,000
Flint, Eddy & Co.....	2,500
E. Steiger & Co.....	500
Thebaud Brothers.....	300
Graham, Hinkley & Co.....	200
For Europe.....	2,000
DEC. 10.—By the <i>Orizaba</i> =Colon:	
Hirzel Feltman & Co.....	11,300
Flint, Eddy & Co.....	13,100
W. R. Grace & Co.....	8,000
Frame, Alston & Co.....	4,000
G. Amsinck & Co.....	4,000
A. Santos & Co.....	2,500
Isaac Brandon & Bros.....	1,800
Dumarest & Co.....	1,300
Silva, Bussenius & Co.....	1,300
E. Schettin & Co.....	1,000
United Fruit Co.....	1,000
Susdorf, Zaldo & Co.....	1,000
Jimenez & Escobar.....	800
Joseph Hecht.....	600
A. M. Capen Sons.....	500
H. H. Smythe.....	500
Kunhardt & Co.....	300
Roldan & Van Sickle.....	300
A. P. Strout.....	200
D. N. Carrington & Co.....	200
DEC. 10.—By Pennsylvania RR.—New Orleans:	
G. Amsinck & Co.....	3,500
A. P. Strout.....	700
DEC. 13.—By the <i>El Sud</i> =New Orleans:	
A. T. Morse & Co.....	8,500
T. N. Morgan.....	1,000
Eggers & Heinlein.....	500
For Europe.....	1,500

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
November 29.—By the steamer <i>Grangense</i> , from Manáos and Pará:					
A. T. Morse & Co.....	140,800	36,500	138,700	6,200=	322,200
New York Commercial Co.....	129,600	45,700	93,500	8,300=	277,100
Reimers & Co.....	92,200	30,400	44,200	8,000=	174,800
United States Rubber Co.....	91,600	10,500	17,700	....=	119,800
Boston Rubber Shoe Co.....	73,300	7,100	13,900	21,000=	115,300
Crude Rubber Co.....	69,600	14,500	26,200	600=	110,900
Lawrence Johnson & Co.....	....	....	22,800	....=	22,800
Joseph Banigan Rubber Co.....	....	....	....	9,600=	9,600
Hagemeyer & Brun.....	5,400	....	2,000	....=	7,400
G. Amsinck & Co.....	4,700	300	1,200	....=	6,200
L. Hageners & Co.....	3,000	....	1,300	....=	4,300
Total.....	610,200	145,000	361,500	53,700=	1,170,400

	Fine.	Medium.	Coarse.	Caucho.	Total.
December 9.—By the steamer <i>Bernard</i> , from Manáos and Pará:					
New York Commercial Co.....	139,900	41,400	52,900	5,700=	239,900
A. T. Morse & Co.....	43,600	10,800	50,300	11,100=	115,800
Crude Rubber Co.....	42,400	6,900	16,400	33,800=	99,500
Boston Rubber Shoe Co.....	46,900	7,000	30,200	11,100=	95,200
United States Rubber Co.....	60,800	8,400	13,100	....=	82,300
Reimers & Co.....	23,500	13,600	33,600	600=	71,300
Lawrence Johnson & Co.....	12,000	1,100	13,300	....=	26,400
Robinson & Tallman.....	10,700	2,000	2,000	....=	14,700
L. Hageners & Co.....	2,000	....	200	....=	2,200
Total.....	381,800	91,200	212,000	62,300=	747,300

	Fine.	Medium.	Coarse.	Caucho.	Total.
December 20.—By the steamer <i>Amazonense</i> , from Manáos and Pará:					
A. T. Morse & Co.....	280,800	60,600	124,400	16,300=	482,100
New York Commercial Co.....	196,100	85,400	84,200	1,000=	366,700
Reimers & Co.....	131,000	25,700	54,100	....=	210,800
Crude Rubber Co.....	124,300	25,900	50,800	1,800=	202,800
United States Rubber Co.....	56,100	7,900	7,500	....=	71,500
Boston Rubber Shoe Co.....	29,800	4,600	27,600	7,200=	69,200
Lawrence Johnson & Co.....	16,900	10,600	14,700	1,500=	43,700
Robinson & Tallman.....	5,400	1,700	1,200	....=	8,300
G. Amsinck & Co.....	....	6,000	600	1,000=	7,600
Total.....	840,400	228,400	365,100	28,800=	1,462,700

[NOTE.—The steamer *Gregory*, from Pará, with 600 tons of Rubber and 25 tons of Caucho for New York, is due January 3.]

CENTRALS—Continued.

DEC. 16.—By <i>El Norte</i> =New Orleans:		
A. T. Morse & Co.....	7,000	
A. N. Rotholz.....	1,500	8,500
DEC. 16.—By the <i>Etruria</i> =Liverpool:		
George A. Alden & Co.....	4,500	
Crude Rubber Co.....	4,500	9,000
DEC. 15.—By the <i>Pretoria</i> =Hamburg:		
Robinson & Tallman.....	3,300	
Reimers & Co.....	700	4,000
DEC. 19.—By <i>El Stiglo</i> =New Orleans:		
A. T. Morse & Co.....	6,000	

AFRICANS.

NOV. 25.—By the <i>Campania</i> =Liverpool:		
Reimers & Co.....	9,000	
George A. Alden & Co.....	5,500	
Crude Rubber Co.....	3,000	
Robinson & Tallman.....	1,500	19,000
DEC. 2.—By the <i>Umbria</i> =Liverpool:		
George A. Alden & Co.....	36,000	
Crude Rubber Co.....	22,000	
Reimers & Co.....	12,000	70,000
DEC. 2.—By the <i>Palatia</i> =Hamburg:		
A. T. Morse & Co.....	13,500	
Otto Meyer, Boston.....	17,500	
Reimers & Co.....	7,000	
Robinson & Tallman.....	3,500	41,500
DEC. 2.—By the <i>Georgian</i> =Liverpool:		
A. T. Morse & Co.....	77,000	
Reimers & Co.....	68,000	145,000
DEC. 2.—By the <i>Potsdam</i> =Rotterdam:		
A. T. Morse & Co.....	22,500	
DEC. 2.—By <i>La Gascogne</i> =Havre:		
A. T. Morse & Co.....	22,000	
Reimers & Co.....	2,500	
R. B. Bald.....	500	25,000
DEC. 5.—By the <i>Pretorian</i> =Glasgow:		
A. T. Morse & Co.....	55,000	
DEC. 7.—By the <i>Pennsylvania</i> =Hamburg:		
George A. Alden & Co.....	11,000	
Reimers & Co.....	2,000	
Otto Meyer, Boston.....	3,090	
DEC. 9.—By the <i>Lucania</i> =Liverpool:		
George A. Alden & Co.....	3,000	
Livesey & Co.....	6,500	
Crude Rubber Co.....	3,000	
Robinson & Tallman.....	2,000	14,500
DEC. 11.—By the <i>Southwark</i> =Antwerp:		
George A. Alden & Co.....	52,000	
Crude Rubber Co.....	52,000	
A. T. Morse & Co.....	1,500	105,500
DEC. 12.—By the <i>Teutonic</i> =Liverpool:		
George A. Alden & Co.....	18,000	
Crude Rubber Co.....	18,000	
Reimers & Co.....	35,000	71,000
DEC. 16.—By the <i>Pretoria</i> =Hamburg:		
Otto Meyer, Boston.....	11,500	
Reimers & Co.....	4,500	16,000

AFRICANS—Continued.

DEC. 16.—By the <i>Etruria</i> =Liverpool:		
George A. Alden & Co.....	17,000	
Crude Rubber Co.....	16,000	
Livesey & Co.....	11,500	44,500
DEC. 16.—By the <i>Canadian</i> =Liverpool:		
A. T. Morse & Co.....	50,000	
Reimers & Co.....	50,000	100,000
DEC. 17.—By the <i>Vaderland</i> =Southampton:		
George A. Alden & Co.....	9,000	
Crude Rubber Co.....	9,000	
Reimers & Co.....	4,500	
Otto Meyer (Boston).....	22,500	45,000
DEC. 19.—By the <i>Amsteldyk</i> =Rotterdam:		
Reimers & Co.....	35,000	
DEC. 20.—By the <i>Germanic</i> =Liverpool:		
George A. Alden & Co.....	14,000	
Crude Rubber Co.....	12,000	26,000
DEC. 21.—By the <i>Phanicia</i> =Hamburg:		
Otto Meyer (Boston).....	10,000	
Robinson & Tallman.....	5,000	
George A. Alden & Co.....	3,000	
Crude Rubber Co.....	3,500	21,500

EAST INDIAN.

DEC. 2.—By the <i>Palatia</i> =Hamburg:		
Robinson & Tallman.....	13,500	
DEC. 11.—By the <i>Manitou</i> =London:		
Joseph Cantor.....	12,000	
DEC. 17.—By the <i>Vaderland</i> =Southampton:		
George A. Alden & Co.....	6,500	
Crude Rubber Co.....	6,500	13,000

PONTIANAK.

NOV. 25.—By the <i>Ataka</i> =Singapore:		
George A. Alden & Co.....	190,000	
Reimers & Co.....	180,000	
William Wright & Co.....	120,000	
Robinson & Tallman.....	55,000	545,000
NOV. 29.—By the <i>Mogul</i> =Singapore:		
Reimers & Co.....	275,000	
George A. Alden & Co.....	190,000	465,000
NOV. 29.—By the <i>Miramar</i> =Singapore:		
Robert Brans & Co.....	100,000	
Robinson & Tallman.....	85,000	
Livesey & Co.....	50,000	235,000

GUTTA-PERCHA AND BALATA.

NOV. 29.—By the <i>Miramar</i> =Singapore:		
Robert Soltau.....	10,000	
NOV. 30.—By the <i>Philadelphia</i> =Southampton:		
Windmuller & Roelker.....	1,500	
DEC. 2.—By the <i>Palatia</i> =Hamburg:		
Robert Soltau & Co.....	11,500	
DEC. 7.—By the <i>Pennsylvania</i> =Hamburg:		
Robert Soltau & Co.....	13,500	
DEC. 16.—By the <i>Marquette</i> =London:		
T. N. Kreamer.....	3,500	

GUTTA-PERCHA—Continued.

BALATA.		
DEC. 5.—By the <i>Pretorian</i> =Glasgow:		
Earle Brothers.....	5,000	
Nov. 29.—By the <i>Prins Willem II</i> =Surinam:		
George A. Alden & Co.....	500	
G. Amsinek & Co.....	500	1,000
DEC. 2.—By the <i>Laurentian</i> =Glasgow:		
Earle Brothers.....	2,500	
T. N. Kreamer.....	2,200	4,700
DEC. 21.—By the <i>Phanicia</i> =Hamburg:		
R. Soltau & Co.....	4,500	

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—NOVEMBER.		
Imports:		
India-rubber.....	4,583,370	\$2,356,747
Gutta-percha.....	24,453	15,769
Gutta-jelatong (Pontianak).....	1,637,549	47,501
Total.....	5,245,372	\$2,430,017
Exports:		
India-rubber.....	19,511	\$10,505
Reclaimed rubber.....	204,223	32,675
Rubber Scrap Imported.....	1,493,818	\$99,225

BOSTON ARRIVALS.

NOV. 2.—By the <i>Sagamore</i> =Liverpool:		
Reimers & Co.—African.....	7,660	
NOV. 4.—By the <i>Storm King</i> =Antwerp:		
Robinson & Tallman.—African.....	7,458	
NOV. 5.—By the <i>Friesland</i> =Antwerp:		
George A. Alden & Co.—African.....	59,466	
[Included in arrivals at New York, October 29.]		
NOV. 6.—By the <i>Philadelphian</i> =Liverpool:		
Livesey & Co.—African.....	4,899	
NOV. 13.—By the <i>Sachem</i> =Liverpool:		
Livesey & Co.—African.....	4,881	
NOV. 18.—By the <i>Irishman</i> =Liverpool:		
Livesey & Co.—African.....	7,296	
NOV. 22.—By the <i>Haverford</i> =Antwerp:		
George A. Alden & Co.—African.....	78,246	
Crude Rubber Co.—African.....	13,263	91,509
[Included in arrivals at New York, November 20.]		
NOV. 25.—By the <i>Michigan</i> =Liverpool:		
Reimers & Co.—Fine Para.....	15,000	
Reimers & Co.—Caucho.....	45,000	
Reimers & Co.—African.....	39,728	99,728
Total.....	282,897	
[Value, \$160,770.]		
GUTTA-PERCHA.		
NOV. 5.—By the <i>Acilia</i> =Hamburg:		
For Canada.....	940	

NOVEMBER EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 1000 KILOGRAMS=2204.5 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prusse & Co.....	29,070	7,820	29,160	—	66,050	189,210	18,530	23,860	—	231,600	297,650
Frank da Costa & Co.....	196,950	21,552	180,866	8,984	408,352	47,622	5,347	23,692	—	76,661	485,013
Adelbert H. Alden.....	120,670	27,670	90,489	1,053	239,882	60,840	1,980	23,360	—	86,180	326,062
The Sears Pará Rubber Co.....	25,160	2,625	21,360	—	49,145	—	—	—	—	—	49,145
Denis Crouan & Co.....	680	—	9,183	—	9,863	60,692	9,498	20,917	—	91,107	100,970
Neale & Staats.....	8,670	850	10,880	—	20,400	39,625	4,352	2,363	2,996	49,366	69,766
Singleton, Brocklehurst & Co..	—	—	—	—	—	33,860	4,360	1,023	—	39,243	39,243
Kanthack & Co.....	—	—	—	—	—	19,766	2,857	11,244	—	33,867	33,867
Pires, Teixeira & Co.....	2,396	—	762	—	3,158	2,018	—	504	—	2,522	5,680
R. Suarez.....	2,550	—	260	—	2,810	—	—	—	—	—	2,810
Sundry small shippers.....	—	—	—	—	—	2,129	—	2,636	2,050	6,815	6,815
Direct from Iquitos.....	—	—	—	—	—	89,822	7,836	60,125	8,274	166,057	166,057
Direct from Manãos.....	407,443	120,986	92,026	65,936	686,391	357,817	0,418	39,338	177,961	655,534	1,341,925
Total for November.....	793,589	181,503	434,986	75,973	1,486,051	903,401	135,208	209,062	191,281	1,438,952	2,925,003



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CONDITION OF THE RUBBER TRADE.

OF course no well informed person will regard certain recent business failures as indicating an unfavorable condition of the rubber trade as a whole. Such an idea could prevail only among those outsiders who have been led, by the amazing misinformation in some widely circulated newspapers, to suppose the rubber industry, and to a large extent the crude rubber business, to be practically under a single control. The real leaders in the trade have been too busy making rubber goods and selling them at a profit, to be concerned about such so called rubber news as has appeared in the daily press for some years past, and the failures referred to above have affected them little if any more.

For the last two or three years the rubber trade in the United States—always profitable when general business conditions are not totally bad—has appeared to be in particularly good shape. There has been a steady increase in the production of goods, which have been sold—with the exception of the shoe branch—at stable and satisfactory prices. Never before have there been so few idle rubber factories; at no period has the number of new factories been greater, or the extension of capital and plant of old companies more general. Rubber is in use to-day for every important purpose for which it has ever been used, and the demand for every line of rubber goods is greater than at any time in the past. The buying capacity of the people was never so great, and the tendency is to buy better instead of poorer grades.

If there is an exception to the generally profitable condition of the rubber trade, it is in the boot and shoe line—and this is owing, not to a lack of demand for goods, not to the unwillingness of any wearer of "rubbers" to pay a fair price for them, but to a war in prices, entered into by the manufacturers, with an eye to future supremacy in the field rather than to present dividends. Of late, however, there has been an advance in factory prices for rubber footwear, besides which the exceptionally low prices of last year proved not to be so low as they seemed, on account of the decline which has occurred in the cost of crude rubber.

While the recent failures are to be regretted, they no more involve the whole rubber trade than the failure last summer of one bank, among nearly a hundred in New York city, involved the whole local financial situation. Every man who buys crude rubber to sell again is liable some day to find himself wishing that his foresight had been as good as his hindsight turned out to be. And any crude rubber merchant who is congratulating himself to-day upon not having entered upon such transactions as were the forerunner of one of the late failures, should at least not boast of superior judgment; it may be just as easy again as in the past to buy rubber for more than it can be sold for. But a decline in crude rubber doesn't injure consumers; nor, on the other hand, did the last decline result from a falling consumption, but from increasing supplies. As for the single manufacturing failure connected with the embarrassment of the crude rubber house, the relations of the two

concerns have not been made clear enough to justify comment at this time.

WIRELESS TELEGRAPHY AND INSULATION.

THE very brilliant experiments which Mr. William Marconi has lately been making in the direction of long distance wireless telegraphy have caused, among those who are not particularly well informed, some feeling of alarm lest the business of the transatlantic and other long cables might be affected by the commercial success of the new discoveries, and lest the manufacturers of insulating materials might find their market restricted through a decreasing demand for such cables. That this is not the case is easily seen by some consideration of the known facts in connection with Mr. Marconi's experiments and their probable and possible outcome, which is at present clearly indicated.

The whole possibility of wireless telegraphy as a commercial proposition rests definitely upon the ability of inventors to devise something which appears not yet to have been perfected—that is to say, a syntonic system.

A syntonic system of wireless telegraphy is one in which the sending station sends out electrical waves of a definite pitch, which may be compared to a musical note, and in which the corresponding receiving station is definitely attuned to receive this particular variety of wave—this particular note, so to speak—and to respond to it and to no other. Evidently, by selecting different fundamental periods of vibration or, we may say, pitch of waves, different syntonic systems may be operated in the same field. While numerous experiments have been carried on by Mr. Marconi and a number of other investigators, no really definite success has yet been attained in this direction, and it seems fair to say that thus far syntonic wireless telegraphy is not commercially developed. And it also seems fair to say that certain limiting and circumscribing conditions which surround every known method of generating electric waves will reduce the number of possible syntonic systems to a very few.

The reason for this is found in the fact that electrical oscillations and vibrations, set up in the usual manner practised by experimenters in wireless telegraphy, result in the formation of a compound wave, not resembling a pure musical tone in character but rather bearing a similitude to a noise, in which a fundamental rate of vibration is topped and embroidered with innumerable wave-lengths bearing to it certain harmonic relations. Indeed, the action of an ordinary oscillator is such as to produce waves having, to follow the acoustic analogy a little further, a close resemblance to the sound that would be produced if all the keys of a piano were struck at once. The production of a single rate of vibration corresponding to a pure tone seems to be practically impossible. For this reason, even if an attuned system of receiving circuits could be devised, the effect upon it of stray harmonics and overtones would be probably to call it into action when this was undesirable. For this reason, seeing that every fundamental rate of vibration is accompanied by others bearing simple arithmet-

ical ratios to it, the possible number of syntonic stations and systems which may be made coëxistent in a given radius of operations is reduced to two or three, in which the fundamentals are so related to one another that their overtones and harmonics will not interfere.

For this very reason the production of a long distance system capable of transmitting a wireless message across the Atlantic is apt seriously to interfere with the operation of other systems within a radius of 2000 or 3000 miles from the sending station. But even if we may assume that syntonic systems are perfected, and that methods of such power as to permit commercial operation of transatlantic signals are put into practice, then the fact still remains that for commercial purposes these systems will not be able seriously to compete in business with the cables.

The reason is sufficiently evident. In no system using the earth and the air for its channel of transmission is it possible absolutely to secure secrecy. If a transmitter is set up in England powerful enough to affect a receiver attuned to it in Massachusetts, for example, then only a comparatively simple exercise of experiment will be necessary to devise another receiver equally well attuned to take off and reproduce the messages received. This objection appears to be fundamental. It is not believed to be likely that the world's business would be entrusted to any system of communication openly liable to unwarranted interference and publicity.

For all of the above reasons it seems to-day that neither the cable companies, the cable manufacturers, nor the makers of insulation have anything to fear from the exploitation of wireless telegraphy. Indeed, it is fair to say that the future use of this system of communication seems to be, to some degree, confined to marine signaling and communication. For this purpose it is well adapted, and its extension in this direction will without doubt be of almost inestimable value. But nothing has been done up to date that indicates, even dimly, the possibility of actual commercial competition between cable systems and wireless systems of communication.

THE GOVERNMENT AND RUBBER.

THE present attitude of the department of agriculture at Washington toward the investigation of rubber resources and production merits the approval and support of every branch of the rubber trade. There is no longer any reason why rubber—any more than wheat, or tea, or hemp—should remain a forest product, to be gained by unsystematized and uneconomical methods. Much has been done by individual, private enterprise in the direction of bringing the production of rubber under more intelligent supervision, but vastly more remains to be done. The rubber belt is so wide, and the conditions so varied, involving, among other things, so many rubber species, and the whole production is so remote from the centers of consumption, that any changes based upon unconnected individual enterprises must be slow.

While the gathering and marketing of rubber—and its planting, for that matter—must always be under private

control, and based upon private capital, governments can render great help to the interest, particularly in the way of collecting and disseminating correct information. Reports by trained scientific observers, intent upon discovering facts rather than making profits, when published officially, gain a wider circulation and are accepted as more trustworthy than even similar reports from any private source. Of the mass of printed matter in THE INDIA RUBBER WORLD's library regarding the sources and conditions of natural rubber supplies, by far the greater part is the result of official or semi-official investigations. There is not one book in the lot written by a private individual who has traveled in and studied any rubber country on his own account.

The United States government in the past has given little attention to the subject of rubber, considering that more than half the world's production is consumed in this country. But now that we have extensive tropical possessions, the same reason exists for studying the development of a rubber interest in them that has appealed to every colonizing power in Europe. The present disposition at Washington is to discover, not only what plants of economic value exist in our tropical territory, but what plants in other countries of corresponding latitudes may be introduced profitably therein. The department of agriculture, in making the estimates of money needed for the coming fiscal year, has included the following clause, which, it is understood, refers in an important degree to rubber :

Botanical Investigations and Experiments.— - - - ; to investigate and publish reports upon the useful plants and plant cultures of the tropical territory of the United States, and to investigate and report upon them, and introduce other plants promising to be valuable for the tropical territory of the United States, such plants and botanical and agricultural information when secured to be made available for the work of agricultural experiment stations and schools ; - - - \$65,000.

It might tend to influence Congress favorably in respect to voting the appropriation if citizens engaged in the rubber trade would write approving the measure, to senators and representatives from their states, or whom they know personally; or letters might be directed to the chairmen of the committees on agriculture, of the senate and house of representatives, respectively.

THE IMPORT DUTY ON RUBBER SHOES continues to receive much attention in view of the revision of the German tariff schedules now under way. In this connection the American duty on goods of this class is often mentioned, in comparison with the rate charged in other countries, and it appears that Uncle Sam makes a pretty heavy charge. It does not follow, necessarily, that a high tariff on rubber footwear in any country will build up the shoe making industry there. Although the protectionist policy has long prevailed in the United States, there probably is no industry in any land whose leaders have been less concerned about tariffs than our rubber shoe manufacturers. It is doubtful whether the rate that would be charged on an importation of rubber shoes is known in any rubber factory in the United States to-day. There is no special duty on such goods, and the rate would have to be computed by analogy. Nor do we believe that, among the countless rep-

resentations that have been made to the Congress in the past in behalf of protection to home industries, any has been heard from a rubber shoe manufacturer. The success of the American firms in this branch is due to the fact that they have made the kind of rubber shoes that were wanted. Having succeeded at home, they are now giving their attention to other markets, in the hope of obtaining a share of their trade by similar means. This is a consideration for rubber manufacturers in other countries to keep in mind, rather than the rates of duty imposed at their custom houses.

THE LIST OF DUTIABLE IMPORTS into the Philippine Islands includes sample rubber goods "with commercial value." It seems worth while to note that such imports during the fiscal year ended June 30 last amounted in value to \$470, whereof \$443 is credited to Germany, and nothing to the United States. During the same year the United States supplied 29.2 per cent. of the total value of rubber goods imported into the Philippines, and Germany only 19.4 per cent. In view of the fact above mentioned, in respect to the introduction of sample goods, it will be interesting to see whether the share of the United States in this trade will be relatively as large next year.

THE SCALE OF WAGES OF LABOR in the manufacture of submarine cables is lower in Europe than it would have to be in the United States in order to attract any labor to this industry. But, as a member of the insulated wire trade points out on another page of this paper, the higher rate of wages would probably be offset by the increased average efficiency of the men employed. We have, upon more than one occasion, referred to the fact that the higher wages paid in American rubber factories do not prevent the sale of their products abroad, in competition with the products of factories paying a lower scale of wages.

THE RUBBER TRUST HAS FAILED, according to the able Englewood (N. J.) *Times*. The issue of that paper for January 11 stated: "Last week an application was made for the appointment of a receiver for the Rubber Trust, and for its liquidation." The editor of the *Times* considerably sent marked copies of his exclusive news to many rubber men, who suspect that he has been the victim of a practical joker. It would be interesting to know whether the enterprising editor is laughing over the matter with the amused rubber men, or swearing in secret.

IT SHOULD ENCOURAGE RUBBER MEN to learn from a writer in the Pittsburgh *Leader*, that "Marconi's wireless telegraphy requires insulation to make it practicable." The idea must be to insulate separately each message transmitted, instead of wrapping tons of copper conductor with Gutta-percha, as is now the case in submarine telegraphy.

THE UPRIVER RUBBER COUNTRY OF THE AMAZON may be in the backwoods, but it is the scene, nevertheless, of many phases of business enterprise. For example, the police of Manaus arrested recently two men who had in their possession 192,000 milreis in counterfeit money, with which they were proceeding to the river Purús to buy rubber.

IS AKRON GETTING READY to manufacture all the rubber goods needed in this country? In no other town have so many factories been started in recent years, and they no sooner are started than they begin to grow.

ARE HOSE GUARANTEES AN EVIL?

THE new public prosecutor in New York county—Mr. Jerome—has views in relation to the guaranteeing of fire hose for this city's use which are at variance with the generally accepted idea. Mr. Jerome lately made a statement on this subject to the City Club—a "good government" organization in New York—the substance of which has appeared in the newspapers. According to these reports, Mr. Jerome considers a guarantee on fire hose sold to the city to be of no benefit to any one except to any dishonest city employé to whom it may give an opportunity to "shake down" the manufacturers. In other words, Mr. Jerome believes that, in the case of goods sold to the city under guarantee, a system of blackmail exists, whereby those whose duty it is to see that the guaranteed article comes up to all its requirements, force the seller to pay blackmail, in order that the goods may not fail before the term of guarantee expires. Mr. Jerome said that he had been talking with a rubber manufacturer who did not sell fire hose to the city, and he knew what he was saying.

As matters stand, it is asserted that it is an easy thing for a city employé to go to a maker who has sold hose with a guarantee, and say to him that a certain amount of the hose is "no good" and has burst—and it is not difficult to get sufficient water pressure to burst a length of hose after it has stood the legal test. Of course the manufacturer knows that his hose is all right, but he doesn't want to risk having its reputation damaged by an official condemnation—and he saves himself trouble by handing the official inspector a bill large enough to make further complaint unnecessary—for awhile, at least. The manufacturer doesn't care to lose the money thus wrung from him, and it would not be strange if, in bidding for hose thereafter, he should make his prices high enough to cover any such incidental expenses as have just been indicated. Gradually, in this way, according to the outside rubber manufacturer quoted by Mr. Jerome, the price charged to the city for fire hose has become much too high.

Now, supposing that there were no guarantees, it is claimed that it would be an easy matter to make tests showing just how good the hose was, and the inspector would know its worth just as well as the maker. He could tell just how long it would last as well as the maker, and the contract for hose could be awarded upon that basis. There would be no guarantee, the inspectors would have no motive for dishonest tampering with the hose within a certain period of time, the manufacturer would not be "bled" as the price for not molesting his hose—and the city would save money by getting hose at a lower cost.

AMERICANS IN THE ACRE DISTRICT.

THE secretary of the Bolivian legation at Washington has addressed a note to the *Mexican Herald* which exonerates the United States from an accusation recently launched against it. Some time ago the region of the river Acre, in Bolivia, which is very rich in rubber, was invaded by filibusters coming from Brazil, who, though disavowed by the government of Rio Janeiro, established there an ephemeral republic, proclaiming its secession from Bolivia. The troops of the latter, after two tedious expeditions across the mountains, swamps, and wilderness of that almost unexplored part of South America, and after some heroic fights, vanquished the filibusters and restored to Bolivia the territory of Acre.

The Bolivian government then granted to an Anglo-American company, having headquarters in London and New York, a concession for the exploitation of rubber and other re-

sources in that territory, where peace had been reëstablished. This was enough for some to affect to believe that the said company was exclusively composed of Americans, and to proclaim, as it is published in *El Tiempo*, of Buenos Ayres, that American capitalists were about to monopolize the territory of Acre; that "first come the claims of the business men, and then the soldiers arrive"; and that if Americans were allowed to extend their influence to the upper Amazon, they might do the same in Argentina.

A Mexican newspaper, going still further than the Buenos Ayres journal, imagined that Bolivia, instead of merely granting an industrial and commercial concession, had actually alienated forever the Acre territory to foreigners. Thereupon, and in order to show that neither the United States nor any other power could indulge the idea of becoming possessors of any portion of the territory of Bolivia, the Bolivian minister at Washington caused his secretary of legation to write to the *Mexican Herald* a letter, from which the following is an extract:

"Bolivia has not sold its territory of Acre. The contract, of a merely private character, that has just been entered into with a syndicate of capitalists to promote the development of the rich zone called 'Territorio de Colonias' does not in the least affect the sovereignty and independence of Bolivia nor the integrity of that region."

FAREWELL DINNER TO MR. H. C. CORSON.

THE members of the executive committee of Druggists' Sundries Association gave a farewell dinner at the Waldorf-Astoria, in New York, on the evening of January 17, to Mr. H. C. Corson, former president of the association, and who

lately resigned as vice president of the B. F. Goodrich Co. There were present, in addition to the guest of honor, Messrs. George F. Hodgman, E. E. Huber, Joseph Davol, George M. Allerton, H. C. Burton, Mr.

MENU		
Huitres de Lynnhaven		
St. Marceaux, Brut	Tortue verte claire	
Terrapène, Philadelphie		
Couronne de jambon aux champignons frais à la crème		
Selle d'agneau du printemps, sauce menthe à l'orange		
Pommes de terre, Laurette Piments verts farcis		
Asperges oouvelles, sauce Hollaodaïse		
Pamplemousse au marasquin		
Canard canvasback rôti		
Salade Waldorf avec piments doux		
Chambertin	Mousse de fraises fraiches	
	Fromage	Café
Still Poland Water		Liqueurs

Fred. H. Jones. The table and dining room was beautifully decorated with flowers and the dinner the best the house could afford. The menu, which is reproduced herewith, suggests a feast which must have been rarely enjoyable. A feature of the occasion was the presentation to Mr. Corson, of a silver loving cup on which the names of the executive committee engraved.

The retirement of H. C. Corson from active work while yet a young man is an object lesson to American business men. He had made a moderate fortune; no doubt if he had remained in business for another ten or twenty years the same ability would make him very rich, but he felt that enough was plenty—that there were better things than mere money getting, and he had the sense to quit. All are sorry to see him go but rejoice in his good luck and his better sense.

On the evening of January 14 the members of the prudential committee of the First Baptist Church of Akron, Ohio, in which church Mr. Corson had been an active worker, tendered him a testimonial dinner.

THE SUBMARINE CABLE INTEREST IN AMERICA.

AMERICAN CABLE MAKING FACILITIES.

THE *Electrical World* (New York) has compiled some details of the cost of cable making in England, compared with the wages which it is assumed would be paid in the United States for similar labor, which may be summarized as follows. The wage rate is given by the hour. Foreign submarine cable factories work two turns of 12 hours each, or one of 12 to 14 hours each, according to conditions. The American working day is 10 hours :

	England.	United States.
Laborers 5 d.	[10 cents]	.15 to .17½
Wire weaving 7 to 8 d.	[14 to 16 cents]	.20 to .25
Armoring 8½ d.	[17 cents]	.25
Machinists 10 d.	[20 cents]	.25 to .35

The labor cost of an American made cable would thus be 50 to 75 per cent. greater than in England. It is asserted further that a similar disparity exists in wages in the wire-drawing industry, and that the American tariff would preclude the importation of the more cheaply produced foreign drawn wires. The higher cost to American cable makers of copper wire is estimated at from 10 to 15 per cent., and of steel armor wire, as high as 3½ per cent.

It is also assumed by the writer in the *Electrical World* that, on account of the predominance of English houses in the Gutta-percha trade, and their greater familiarity with it, the cost of Gutta would prove greater here, at least in the beginning. Last, but not least, in order to tender for an ocean cable, which would require to be constructed without too great delay, a very large initial capital would be necessary for plant and other facilities, on a scale commensurate with those which have been built up by degrees by foreign manufacturers, during a long term of years, the cost being defrayed gradually from the profits on many successive orders, small and large.

* * *

"THE article in the *Electrical World* shows a careful study of the situation," said an official of an American cable company to THE INDIA RUBBER WORLD, "but its writer probably was not aware that at least two American factories had been quietly equipping themselves for submarine cable work. While most of the data in that article will be found sufficiently accurate, the writer overlooks the fact, that in competition between European and American workmen, although the pay is much higher in this country, in nearly every case the amount of work accomplished compensates for the difference in wages. The great supremacy gained by America in the last two years in export trade, allowing us to sell locomotives, bridges, machinery, and manufactured goods abroad, successfully entering the markets that had long been controlled by England, is ample proof of my statement.

"It is stated by English cable engineers, and actually believed by them, that experts in cable manufacture are born, not made. The subject of high insulations is nothing new to Americans. The first successful submarine cable ever made was of American manufacture and laid across the Hudson river. Since that time there has never been a break in the manufacture of insulated wire in this country up to the present day, and it is only reasonable to believe that, with this long experience and the large number of American manufacturers engaged in the insulated industries—there are now fifteen—that our mechanics are sufficiently well educated to construct a submarine cable.

"There have been installed in this country within a short time some of the latest types of submarine cable machinery. While in Europe some time ago I obtained data regarding the largest cable plants, and found, much to my surprise, that in some respects American manufacturers were in advance of their transatlantic cousins.

"The great drawback to the American industries has been the smallness of their armoring plants, with the inability of a large daily output. While their insulating machines could turn out a large quantity of core, they do not have the facilities for armoring the same. As this industry is new, it is impossible to buy proper closing machines in America. It was, therefore, necessary, in installing one new plant here, to import the latest type high speed closing machinery for this work, plans being so drawn that, in case of an American Pacific cable bill passing Congress, they can immediately increase the number of these machines to a capacity of thirty nautical miles per day, which is five miles in excess of the best foreign factories.

"There is no question that the first Pacific cable would cost more, built in this country, than abroad. American manufacturers should be granted ample protection in the establishment of this new industry. Once established, and with the improvements suggested by American skill and ingenuity, it would be but a short time before they would enter the cable markets of the world, and, with their increased speed in manufacture, rapid deliveries, and the improvements that would surely be made, they would very soon build up a business that would allow them to compete with foreign manufacturers.

"One of the great points of advantage in an American plant would be the ability to use submarine cable making machinery in the manufacture of land wires for telephone, telegraph, and electric light work. Some of the present foreign plants are only run six months out of each year—i. e., only when submarine cable is to be made. Their electrical industries do not of course require the tremendous amount of insulated wire that is used in America. Taking into consideration these economical principles, with the ability for keeping the machinery running on all forms of work, there is no question but that an American plant, when built by a company whose reputation is well established in other lines of wire manufacture, would prove a profitable investment."

* * *

WITH regard to the suggestion in the *Electrical World* that American manufacturers would be at a disadvantage in buying Gutta-percha, the gentleman above quoted did not speak. It might be noted here, however, that although few Americans have ever engaged in the crude rubber trade in the primary markets, the rubber manufacturers here have never been at a disadvantage in getting all the raw material they needed. In fact, THE INDIA RUBBER WORLD has been assured by an English rubber merchant that manufacturers on this side are "closer" buyers of crude rubber than in England. As for Gutta-percha, its use in continental Europe is increasing—chiefly for cable making—and in 1900 there were shipped from Singapore direct to those countries 5,500,000 pounds, or more than the world's total production a few years before. If these countries have not been deterred by England's predominance from going into the Gutta-percha trade, why should the United States be? Indeed, the cable making industry of England was to a certain extent an importation from Germany, the original Siemens

house having established a branch in England, before the days of free trade, to avoid paying duties on their products sold in the latter country.

THE AMERICAN PACIFIC CABLE.

In the report presented to the shareholders of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited, at the annual meeting in London on December 17, the directors stated that the company had just commenced the manufacture of 2400 nautical miles of cable for the Commercial Pacific Cable Co. This cable would also be laid by them. The board tendered for this work at an extremely low figure, in order to secure the contract.

The chairman stated that he had an object in giving the shareholders this information, as he did not wish them to go away with the impression that the work might prove highly remunerative. As they were aware, one could not, in this class of work, which entailed considerable risk through unforeseen misfortune from weather or from other causes, predict results from a financial point of view. They might rest assured, however, that nothing would be wanting in the skill and foresight brought to bear for the successful accomplishment of the work, and they hoped that when the cable was laid between San Francisco and Honolulu, extensions of the line would be determined upon, and that a portion of the work would fall to the company's share.

* * *

GEORGE G. WARD, vice president of the Commercial Pacific Cable Co., testifying before a congressional committee at Washington on January 10, stated that the new cable was being manufactured at the rate of 240 miles per month and that \$182,655 [about £37,500] had been paid on contract. He said that the company proposed to charge \$1 a word for messages between San Francisco and Manila, and 35 to 50 cents to Honolulu. Until recently the cost of cabling between New York and Manila had been \$2.35 a word, but in November last, in view of coming competition, the rate had been reduced to \$1.66.

* * *

WHILE no specifications have been made public regarding the Commercial Pacific cable, THE INDIA RUBBER WORLD learns that the amount of Gutta-percha to be used will be about 750 tons, and of copper about 500 tons. Taking 2400 nautical miles as the length, would give an average weight per mile of 700 pounds of Gutta-percha, and 466 $\frac{2}{3}$ pounds of copper. The practice hitherto, while the amount of material and the relative proportions varied, was to employ a greater weight of copper conductor than of Gutta-percha. Thus the French cable laid between Brest and New York in 1898 contained 660 pounds of copper and only 396 pounds of Gutta-percha per mile. In some other important ocean cables the ratio of copper and Gutta-percha has been 650-400 pounds, 552-368, 510-325, 500-320, and so on—the copper always predominating in weight.

* * *

AT Washington, on December 4, Senator Hale reintroduced the Pacific cable bill as it passed at the last session of congress. It provides for the construction by the government of a cable from the western coast of the United States to Hawaii. In the house of representatives three bills have been introduced: (1) by Mr. Jones of Washington state, proposing a Pacific cable, by the northern route, via Puget Sound, with an appropriation of \$8,000,000; (2) by Mr. Corliss, of Michigan, proposing a government built cable; and (3) by Mr. Sherman, of New York state, offering a plan allowing private participation in the enterprise. During the past month there have been hearings before the committees in the two houses to whom the

cable bills have been referred. The Commercial Pacific Cable Co.'s representatives appeared to protest against any legislation on the subject, and against governmental competition with their enterprise. Western Union Telegraph interests, on the other hand, protest against a cable monopoly in private hands, maintaining a service which they could not use in sending transoceanic messages without being discriminated against. Hence they favor governmental control of the new cable.

* * *

THE New York *Electrical Review* says: "There are not at present any cable-ships flying the American flag of capacity sufficient to undertake the laying of even the shortest length of the contemplated cable across the Pacific. It is chiefly to this lack that we must lay the blame for the contract for a transpacific cable going to foreign concerns." The *Review* suggests that the government equip as cable ships one or two of the foreign built vessels purchased for transport service during the war with Spain, and now no longer needed by the military establishment.

PROGRESS IN AMERICAN CABLE MAKING.

THE contract awarded to a New York firm for the construction of nearly 500 miles of submarine cable for the Mexican government was referred to in the last INDIA RUBBER WORLD [page 116]. The cable is to be insulated with Pará rubber, put on by the seamless process. It is stated that the contract was secured in competition with European manufacturers, but that the high grade and good results from this form of insulation, as manufactured in the United States, won the contest, at a price in advance of the foreign tenders. "The warm waters of the Mexican gulf," it is stated, "and the resultant animal life, especially the *teredo*, make it advisable to use India-rubber insulation, as it has the double advantage of withstanding the heat and is not attacked by the *teredo* as Gutta-percha is." During two years past over 1000 miles of rubber insulated cable, built by this company, have been laid by the United States army signal corps in the Philippine archipelago, one section at a depth of 1 $\frac{1}{8}$ miles. These cables, besides being subjected to the usual conditions of service, are said in some cases to have been required to meet emergencies never before equalled, owing to mishaps due to laying them in unchartered waters, the wrecking a cable ship, with the resultant strain on the cable and its long exposure to the sun, and so on. But all the cable laid is now working satisfactorily.

* * *

ON January 6 bids were opened at Washington for approximately 250 miles of submarine cable for the Philippines service, to be made in every respect similar to that previously made by The Safety Insulated Wire and Cable Co. (New York). On account of the success of the rubber insulated cables already in use, the chief signal officer of the army awarded the contract to the Safety company.

IT is well known that the jar ring business is a very large item in the line of mechanical rubber goods. A quiet revolution now taking place in this business is in the methods of packing. Whereas in the past they were sold almost entirely in bulk, today the package ring has almost wholly driven out the bulk ring, which is a move in the right direction, from both the manufacturers' and consumers' standpoint.

THE exhibits of vegetable and mineral products—including India-rubber—from Central America and South America, displayed at the Pan American Exposition, at Buffalo, last year, have been deposited in the Philadelphia Commercial Museums and will be shortly catalogued.

AN AMERICAN REPORT ON GUTTA-PERCHA.

THE report of Dr. Penoyer L. Sherman, Jr., the special agent of the Philippine forestry bureau detailed last year to visit the Straits Settlements, Java, etc., to gather information regarding Gutta-percha, has been published as an appendix to the latest report of the United States Philippine commission [mentioned in the last INDIA RUBBER WORLD—page 98.]

He reports that the principal supply of the Gutta-percha of commerce comes from points which only wild natives will or can penetrate, and the preparation and marketing of the Gutta—up to its arrival at Singapore—is in the hands of the Chinese, who carefully guard all the secrets of the trade. He gained the impression that the supplies now being “worked” are rapidly diminishing, the quality decreasing, and prices increasing.

The annual output of Gutta-percha has increased but very little within the past five years, when the high prices have enticed more native gatherers into the forest. Yet even then the demand has been so out of proportion to the supply that even the Chinese have had to resort more and more to adulteration. Consequently, of the cheaper grades there seems to be plenty on hand, but of the best variety there is not more than a ton all told [at Singapore, in September, 1901], with a demand for 600 or 700 tons. From long experience the Chinese are very clever in mixing, coloring, and adulterating the finer grades with the cheaper ones, although they apparently have nothing but smell, feel, and color to go by. And just as the natives guard the secret of the different kinds of Gutta-percha trees and their locality, so do the Chinese hide their methods of preparing Gutta-percha for foreign markets. With the supply coming from different countries and trees, and changed and adulterated in different ways, it is no wonder the kinds and varieties of Gutta-percha for sale in Singapore are very large. Of the twenty-five different varieties, the following table gives the principal ones, with their approximate amount of Gutta, and their prices [in Mexican silver, for September, 1901] as given by Low How Kim & Co., one of the largest Gutta-percha dealers in Singapore:

KIND.	Variety.	Per cent. Gutta.*	Price per Picul.
“Reds”	Pahang	78	\$260
	Bulongan	69	225
	Sundek	57	210
Sundek	Bagan	57	210
	Serapong	56	180
	Sarawak	56	85
	Sarawak	52	85
White	Treganor	52	85
	Pahang	52	90
	Jambui	49	..
Mixed reds	Sarawak 1	61	110
	Sarawak 2	56	90
	Sarawak 3	52	70
	Sarawak 4	52	40
Reboiled	Padang	50	90
	Penang	50	90
	Siak	50	11

[* These percentages are stated by Dr. Obach. Dr. Sherman writes: “As the percentage of Gutta in a sample of pure Gutta-percha from the species *Dichopsis gutta* is generally 85 to 90, it is certain that the best commercial variety is far from being pure.”]

The grading as here given has been changed from year to year, the names simply signifying some peculiarity of the Gutta-percha and the places from whence the different varieties are supposed to come. There is no connection whatever between the different kinds [as described commercially] and the species of the trees. This lack of connection has greatly retarded the scientific study of Gutta-percha for, when the products of two different kinds of trees are mixed, there is no known way of separating or identifying them.

A table is given of imports of Gutta-percha into Singapore for 1900, and also of the exports. Two grades are given—corresponding evidently to Gutta-percha and Gutta-jelatong (Pontinak)—the totals being as follows, in pounds:

	Imports.	Exports.
Gutta-percha	9,875,533 ¹ / ₃	12,986,600
Inferior Gutta	15,683,866 ² / ₃	12,790,000
Total	25,559,400	25,776,600

These figures compare very closely with returns printed already in THE INDIA RUBBER WORLD, which has stated the export of true Gutta-percha from Singapore in 1900 at 13,684,133¹/₂ pounds, as against 12,986,600 pounds above.

From the tables it is seen that Gutta-percha is divided by the statisticians into Gutta-percha proper and inferior Gutta, anything under an import price of \$15 [Mexican, per picul of 133¹/₂ pounds] coming under the latter head. This new method of dividing the Gutta-percha into a high and low grade was devised in order to avoid the misleading figures of the Gutta-percha trade, which resulted formerly when the great quantity of inferior Gutta, which is in truth no Gutta at all, was considered a real Gutta-percha.

This grouping into *real* and *inferior* Gutta-percha gave an unique clue to the Chinese practice in Singapore, for it can be seen that in 1900, for example, 23,000 more piculs [3,111,067 pounds, to be exact] more of Gutta-percha were exported than were imported, while at the same time 21,000 piculs [2,893,867 pounds] less of inferior Gutta were imported than exported. As the average price of the inferior Gutta is \$4.40 per picul, and the average price of Gutta-percha \$74 per picul, this work of adulteration of the real with the inferior netted some \$1,500,000.

Dr. Sherman is inclined to the belief, since he visited the recognized Gutta-percha producing districts, that Gutta-percha species of value exist in important quantities in the Philippines, though up to date the most valuable species (*Dichopsis gutta*) has not been recognized there. But even if this species should not be found, Dr. Sherman believes that it may be introduced under cultivation, citing in support of his belief the success which has attended the experimental planting of Gutta-percha, under governmental auspices, in Java, to which island the true Gutta-percha is not indigenous. The Dutch government began planting Gutta-percha in 1847, as a result of which many thousands of trees have come into existence, but as they are of more value in producing seed for further planting than for their product of gum, no extraction is allowed. In view of the diminishing native supplies, the government is now devoting serious attention to Gutta-percha cultivation, and active steps have been taken in a program that, by 1907, will have 900,000 to 1,000,000 Gutta-percha trees planted in Java alone.

In regard to the amount of Gutta-percha secured by the natives in their careless way of working it is almost impossible to say. Their own statements are both inaccurate and wilfully misleading. The experiments made by botanists and others show pretty conclusively that the amount of Gutta-percha in a tree increases with its size and age. The amounts secured by supposedly reliable witnesses vary from only a few ounces to 13¹/₂ pounds. This is not to be wondered at, as the trees felled were of all sizes and ages. One of the latest and most carefully carried out experiments by Curtis gave 1¹/₂ pounds of pure Gutta-percha, the tree being large and full grown. Most experimenters agree that the natives, from their careless methods, only get, on an average, 1 pound from each tree. These experiments naturally suggest the queries: First, what amount of Gutta-percha does a tree really contain; second, what proportion of the total Gutta-percha in the tree can be collected by ringing the tree in the native way? Wray experimented on the large Gutta-percha tree found in the forest, with a view of throwing light on the matter. By felling and ringing the tree, native fashion, he secured about ³/₈ pound of Gutta-percha. He then analyzed the bark and leaves, computed their weight, and concluded

that there had been at least 25 pounds in the entire tree. Thus, by the native method, only one-thirty-fifth to one-fortieth of the entire yield can be secured. From an experiment conducted by P. von Romburgh, on another tree, cultivated, the above figures would appear to be too large, but even if we take a perfectly safe estimate of one tenth as the amount secured, the fearful waste is very evident.

Many years ago it was found that the bark left on the Gutta-percha tree which had been felled by the natives and left to rot in the jungle still contained 5 per cent. of pure Gutta-percha, while the dead leaves had 7 to 10 per cent. Consequently many experiments have been made, in European countries, as well as in Singapore and Java, to get a working process for extracting Gutta-percha from bark and leaves. The processes thus resulting are both patented and secret, and Dr. Sherman was not permitted to examine them, but he inclines to the belief that all the Gutta-percha factories now running in the East have greatly improved their methods and machines since the beginning. The consensus of opinion seems to be that, by the time the Gutta-percha plantations are ready to furnish leaves enough, the factories will be able to produce the best grade of Gutta-percha.

To sum up, Dr. Sherman believes, after visiting the Gutta-percha regions already exploited, that the Philippines contain Gutta-percha species of value. If the best species is not to be found native, the conditions are favorable for its introduction. A supply from plantations may be a long time coming, but the Philippines will be equally situated with other countries, when the native supplies have become exhausted and plantations of Gutta-percha are the only dependence. And by the time plantations are matured, the work of chemists will have provided means for obtaining a steady annual yield of Gutta without injury to the trees.

GUTTA PERCHA EXPORTS FROM SARAWAK.

THERE is a growing output of Gutta-percha from the British protectorate of Sarawak, of which Kuching is the capital, on the western coast of Borneo, and which has an area equal to that of Illinois, in the United States. According to Dr. Obach, the exports of Gutta-percha for the five years ended 1896 were 1,593,984 pounds—an annual average of 318,797 pounds—of the average export value of 35½ cents. The last report of the British consul in Sarawak contains data from which this table has been compiled, giving the weight of yearly exports in piculs, and value in English money, with equivalent weights in pounds and value in American money:

YEARS.	Piculs.	£	Pounds.	Cents.
1897. . . .	2867	18,553	382,266 $\frac{2}{3}$	23 $\frac{2}{3}$
1898. . . .	3745	27,573	499,350	26 $\frac{7}{8}$
1899	8980	56,562	1,197,333 $\frac{1}{2}$	23
1900. . . .	7964	78,829	1,061,866 $\frac{3}{8}$	30 $\frac{1}{8}$

Gutta-percha is gathered by the native Dyaks, who can be hired for 7 pence per day. The trading is chiefly in the hands of Chinese. Some of the best Gutta-percha known to commerce comes from Sarawak, but there is also included much "Sarawak mixed," which Obach describes as "a very useful second class material." The average export value, therefore, is less than for Gutta-percha from Penang or Malacca, in the Malay peninsula. Sarawak Gutta-percha is exported wholly to Singapore.

A BRITISH REPORT FROM SINGAPORE.

THE annual colonial report on the Straits Settlements for 1900 contains these details relative to the trade of Singapore: Gutta of good quality increased its export figures by over 1000 tons, but inferior kinds fell off by about the same amount. This low priced produce, chiefly Gutta-jelatong [Pontianak], is sent principally to the United Kingdom and the United

States. Borneo and India rubber exports decreased by over 500 tons. The increase in the value of Gutta-percha exported to the United Kingdom was £375,000 [= \$1,875,000], and Gutta to France increased by £35,000, while "there was an enormous decline in Gutta" shipped to Germany.

TELEGRAPHS IN THE PHILIPPINES.

THE annual report of General A. W. Greely, chief signal officer of the United States army, for the fiscal year ended June 30, 1901, contains in much detail a record of the land and submarine telegraph service for military purposes, which has developed to such an important extent since the beginning of the Spanish-American war, and the acquisition of large tropical possessions. At the date mentioned the army signal office had been concerned with the laying of about 1400 miles of submarine cable, of which 749 miles were then in operation in Philippine waters. There were also in use, at that time, 4710 miles of land telegraph lines, under military control, in the Philippine islands alone, and about 600 telegraph and telephone offices, besides the telegraph communication in Cuba, Porto Rico, along the United States coast, and so on. A point of special interest is that all the equipment involved is of American manufacture, and installed by American engineers.

It is pointed out that the Philippine group has twice the area of the British islands, and almost the area of the Japanese empire, the extreme distance from north to south being 1000 miles. From the reports of various officers in the signal service, printed in the appendix to General Greely's report, it appears that, wherever their work has taken them, the natural resources of the islands point to great possibilities in the way of development. Hitherto enterprise of most kinds has been handicapped, without regard to other conditions, by the lack of means of communication. Before the establishment of army telegraphs, military officers at Manila could not convey orders to subordinates in the remoter southern islands, or receive reports from them, in less than two or three months. Now all the important points are connected by wire, and the service is available, or will be, for commercial purposes at the rate of 4 cents a word between the most widely separated stations.

It appears that the trading of the southern islands is carried on, not with Manila, but with Borneo and Singapore. Indeed, before the American occupation, there was almost no communication between Manila and the great island of Mindanao. The latter, by the way, is believed by the signal officers, who kept a lookout for Gutta-percha while laying cables, to be very rich in this material, and their reports confirm various statements on the subject that have appeared in THE INDIA RUBBER WORLD. Captain George O. Squier reports [March 19, 1901] that \$300,000 worth of Gutta-percha had been shipped within a year from Cottabata alone, in southern Mindanao. This material found a higher valuation at Singapore, one shipment alone being stated to have yielded a profit of \$30,000 to the Chinese who were concerned.

This report is embellished with fine views of cable laying operations in Philippine waters, and contains numerous data that will prove useful when the history of the cable making industry in the United States comes to be written.

ON January 4 was registered at Brussels the "Upper Congo to the Great African Lakes Co.," with 25,000,000 francs capital, to construct the projected new railway in the rubber regions of the Upper Congo country referred to in the last INDIA RUBBER WORLD—[page 126]. French capitalists subscribed 10,000,000 francs and Belgians the remainder.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE disastrous snowstorms of the early part of December, with the attendant breakdown of the telegraph wires over so large an area of the Midlands, has caused renewed attention to be paid to the subject of subterranean cables, the value of the London and Birmingham wire being strongly emphasized. It is quite unlikely, however, that the postmaster general will seek to supersede the aerial lines

TELEGRAPH NOTES.

under his management generally by underground ones. Leaving out of account the expense, which would of course be enormous, it has to be noted that the paper insulated wire, although doing away with the great expense attaching to the use of Gutta-percha, is inferior for telegraphic purposes to the bare aerial wire, however suitable it may be for the feeble currents required for telephonic purposes. This fact has been insisted on by the department in reply to certain circles of business men who have protested against the continuance of a system which is so liable to breakdowns and their serious business consequences. The news of Marconi's latest triumph has naturally excited a great amount of interest, but it can hardly yet be said to presage a condition of affairs calculated to cause the proprietors of submarine cable works to feel deep concern as to their future. However, there seems no doubt that the efforts which are being made by Marconi and by Messrs. Armstrong and Orling, the former by air and the latter by the use of earth currents, to do away with the use of insulated conductors will culminate in a revolutionized state of affairs telegraphic, and one in which the insulated cable manufacturer will play but a very subordinate part. Despite the glowing announcements which have appeared in the daily press, it is rather too soon to say anything definite as to the prospects of the Armstrong-Orling wireless telegraphy, though Mr. Armstrong expresses himself in extremely confident terms as to the untold wealth which awaits those who become financially interested in the somewhat expensive experiment that remains to be carried out. The advantage claimed for this process over that of Marconi is that hills and dales have no retarding effect; the plane surface which the Marconi system requires is no longer a necessity, and therefore its utility is unbounded and unfettered. At least this is what we are told; it may turn out that self-interest and exaggeration have combined to distort the truth and it will be as well to keep our hands folded a little longer before showing our appreciation of the latest discovery by applauding "in the usual manner."

As only a certain number of our rubber works are run as limited companies, it is not easy to get at the exact facts relating to the condition of business as portrayed by the annual balance sheet. But in the case of more than one prominent concern, into the details of whose profit and loss account the outsider cannot peer, I am able to confirm what was foreshadowed in these notes a few months ago. This statement has reference to the interaction of reduced business and reduced price of rubber. Had rubber remained throughout 1901 at the figures of 1900, the reduced volume of trade must have had somewhat serious results, but as it has turned out, the results have proved more satisfactory than in 1900. Of course there are exceptions, but I do not think that, as a general statement, the above will meet with serious criticism. The advantages and disadvantages of carrying on a general trade in preference to specializing in one or a

few articles, have more than once come up for discussion in our technical literature, and there can be no harm in saying, that in my own opinion, which is based on the present condition of the British trade, those who have the largest variety of goods with which to attract custom, are the best off. In their case, a falling off in the demand for the products of a particular department, does not spell ruin, as it may easily do in the case of a firm dependent on one branch alone. Not that by this I am advocating that those who at present are not making certain articles, should instantly commence doing so. I should be very chary of doing so, for two reasons: firstly, because the requirements in almost all branches can be easily fitted by the plant at present in operation, and secondly, because perfection in the manufacture of many classes of rubber goods has only been arrived at after a considerable expenditure of money and time. I sometimes hear manufacturers say "It is strange that I cannot make this article properly, as So-and-so seems to find no difficulty." I reply that So-and-so has, in all probability, gone through a period of probation, and at such a cost as to make him disinclined to discuss in the pages of his trade journal the tortuous way by which he eventually gained Corinth. What is desirable is not always expedient, and it is in the spirit of this maxim that I am averse to the multiplication of departments in works at the present time, though this does not at all weaken my statement as to the advantage which old established concerns are able to command from this form of procedure.

TWO causes of litigation which were at one time of greater prominence than has of late years been the case have recently arisen. There is no object in giving the names of the parties interested, and it will be enough to say that the one case has reference to the premature decay of elastic webbing and the other to a like result in waterproof clothing. In both these cases, as in almost all those to the details of which the historical student has access, there is a conflict between the manufacturers of the textile fabric and of the rubber as to which of them is really responsible for the disaster. And the divination of the truth is not at all an easy matter in such cases, the deductions from chemical analyses being extremely liable to error. There is, however, one point on which all are generally agreed, and that is that copper salts should be absent from the dye of fabrics which are intended either for proofing purposes or to come into direct contact with rubber. As regards grease and the extent of its injurious action under dry heat or cold cure, opinion is somewhat divergent, but among those who have paid real attention to the subject there is complete unanimity on the subject of copper. Of course it is possible to engage experts who can easily bring themselves, not exactly to believe that black is white, but who find little difficulty in bringing forward evidence to support the views of their clients. But considering that the presence of copper is so generally recognized as dangerous by rubber manufacturers, and that the use of it has of this account been altogether abandoned by the cloth manufacturers by the special request of the rubber trade, the chemist who sought to show that although copper was present in a case of decomposition the fault was due to the proofing, and not to the copper, would, it seems to me, find himself somewhat in a quandary when subjected to cross-examination. Not that he might necessarily be wrong, as the proof might be of an inherently evil nature, if

LITIGATION REDIVIVUS.

the expression is permissible, but the difficulty of showing that a rubber proof is the cause of its own decay is so great that if the presence of copper in the textile fabric is demonstrated there is in the light of our knowledge of the deleterious action of even minute quantities of copper a strong probability that in the case of a trial the cloth manufacturer would come off second best. That this has not always been the case it is true but then the indictment against copper had not been so clearly made out and more loop-holes were left by which the cloth manufacturer could extricate himself from an uncomfortable position.

WITH regard to the interesting article in the December issue of THE INDIA RUBBER WORLD on this subject, it may not be without interest to say a word in comment. Certainly the author is quite right in deprecating the testing of a hose at pressures far higher than it is likely to meet with in practice, because this cannot but weaken it. A prominent hose manufacturer in this country says that it is quite unusual to test the bursting pressure here, because it is always far above what is required, and, moreover, such a test tells you nothing about the durability, which is an important feature. What is wanted here, he says, is for town officials to give up buying hose from plumbers or small shopkeepers, and to buy direct from the manufacturer, who sells a quality corresponding to the price, which is not at all the universal rule amongst middlemen. It is but rarely that the street main pressure exceeds 50 or 60 pounds, so there is no object in testing up to 400 pounds. With regard to rubber-lined hose, that which is made with a joint has the best reputation, because this method of manufacture permits of better rubber being used than when the rubber is in the seamless condition. A certain amount of German and of American rubber-lined hose finds its way to Great Britain, though a complaint against the latter is that it is too heavy; that both the canvas and rubber are used in greater weight than is desirable or necessary. This is, of course, merely the expression of individual opinion, which might not be generally supported were a show of hands taken.

I DON'T know how far the average American rubber works superintendent exceeds his British confrère in his grasp of the German language, but the state of affairs here is that the British as a rule do not read German and do not intend to devote themselves to its study.

Now leaving out of account the question of translation, the present position gives the Germans an advantage because their study of English is becoming more and more general. However, not to enlarge unduly on this abstract side of this topic, I may say that it is the publication in Germany of one or two books on the rubber trade and which appear to be practically unknown in Great Britain that has prompted me to the remarks in this paragraph. The tendency of the German writer to specialize and to go into minute detail is well enough known and it is therefore not surprising that the world famed press of Leipzig should have recently issued a volume entitled "Die fabrikation der Kautschuk und Leimmasse-typen, Stempel und Druckplatten; sowie die Verarbeitung des Korkes und der Korkabfälle" ("The manufacture of rubber and glue types, stamps and printing presses, also the employment of cork and cork dust.") This volume, though not on a very important branch of the rubber manufacture, yet conveys a good deal of technical information not otherwise obtainable. In the light of what has been said above it is unlikely that the book will have much of a sale in this country, though no doubt its contents would be appreciated in certain quarters. So far the general treatises which have been published on the manufacture have justified their appearance more by the special features which they pre-

sent than by the novelty of their contents as a whole. For instance, in Franz Clouth's "Rubber, Guttapercha, und Balata" the botanical information is really very complete, and as far as I know the best of its kind in form of arrangement. No doubt other special volumes will follow that mentioned, though such books can hardly prove much of a gold mine to their authors.

A FIRM doing this business now announce in their circulars the specific gravity of their product and further details concerning the content of mineral matter. It strikes me that this will involve a good deal of work if the raw product is what is bought indiscriminately as "old rubber." Where the acid process is used, as for instance in garment cutting, the amount of mineral in the resulting product depends very largely upon its solubility in acid. Thus, while zinc oxide, whiting and litharge are nearly all removed in the acid, both French chalk, barytes, silica, etc., are unacted upon, and go to swell the weight of the product. To produce a uniform article cannot be at all an easy thing, though all will be agreed that the principle of informing the buyer of the details of his purchase is a move in the right direction.

THAT the advantage of Dermatine over ordinary vulcanized rubber for special purposes is becoming more and more recognized is clear from the increasing tendency among engineers to specify that this material must be employed. Among the most recent examples of this is the Edwards patent air pump for marine engines and the Haste patent pump; in which cases the patentees in their instructions to the makers specify the use of Dermatine.—The new works of Messrs. William Warne & Co., Limited, at Barking, near London, are now completed, and practically the whole of the firm's extensive operations are being carried on there, although the business is still being directed from the old works at Tottenham.—Some trouble seems to be in store for those responsible for the reorganization of the Dunlop tire company opposition to the proposals put forward being somewhat strong especially in the Dublin quarter.—The recent lamented death of Mr. Mathew Gray, managing director of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited, (Silvertown) removes from the rubber trade of Great Britain one of its most prominent personages and his loss will be severely felt by the firm with which he has for nearly forty years been connected.—I understand that the labor troubles recently experienced at the works of the Leyland and Birmingham Rubber Cos., Limited, have now been settled. What has in some quarters been styled the "aggressiveness" of the Rubber Workers' Union does not appear to have been felt at all in the London district, though a different tale has to be recorded of the neighborhood which recognizes Manchester as its principal city.—The announcement of a loss of £28,000 by the Eccles Rubber Co. has caused something like consternation among the shareholders, who had anticipated a much more favorable report as the result of the recommencement of work, though it is quite understandable that difficulty has been experienced in bringing back to the fold those whose custom was lost at the suspension of operations caused by the disastrous fire which occurred rather more than a year ago.

A RUBBER LARYNX.—The statement is sent from Paris that Dr. Claude Martin, a famous surgeon of that city, has successfully performed a delicate operation that marks an important step forward in surgical science. He has succeeded in equipping a patient with an artificial rubber larynx with a perfect glottis, the vibration of which makes the tone for speaking. For eating, an automatic shutter is appended, which protects the windpipe.

RECOVERED
RUBBER.

TRADE
JOTTINGS.

FIRE
HOSE.

RECENT
LITERATURE.

CONDITIONS OF RUBBER TRADING IN BOLIVIA.

ABOUT twenty years ago the explorations of Dr. Edwin Heath, an American, advertised to the world the navigability of the river Beni, in Bolivia, and called wider attention to the wealth of the rubber resources of that region, the development of which had been begun, on a small scale. Year by year the extent of this rubber field has become more fully known, as neighboring streams have been explored, besides which the rubber yielding trees have been found to be more plentiful there than in almost any other region, the trees produce more liberally, and the country has advantages with respect to healthfulness. But Bolivia is naturally inaccessible; to-day communication cannot be had between the Beni river and the outside world short of two or three months. Then there has been a lack of local capital, and a want of local business talent to organize the gathering of rubber on a large scale. Following close upon Dr. Heath's voyages, however, came the establishment on the Beni of European houses, on a small scale at first, but gradually developing until, to-day, millions of dollars would be required to buy out all the rubber properties and trading stations.

Among the early enterprises projected for this field was The Beni Gum Co., chartered under the laws of New York with \$500,000 capital, but the rubber men from New York city who went on the initial exploring expedition became so dismayed at the outlook that they turned back before getting even a glance at the Beni—which river they never wanted to hear of again. Gradually the drawbacks to trading there have been overcome, however, and the next great development of rubber production may be looked for in the valleys of the Beni, Madre de Dios, and Orton—rivers which converge, with others, to form the Madeira, a tributary of the great Amazon. And the capital needed for this development, and the concurrent exploitation of other Bolivian resources and creation of transportation facilities, is likely to come, in large measure, from the United States.

At one time liberal profits were realized on rubber and on imported merchandise by the trading companies on the Beni, which had the effect, as the facts became generally known, of causing a rush of new traders, tempted by prospects of sudden fortune. One result was a competition to secure workers, whose conditions became more and more onerous; then to obtain transportation, both outward and inward; and, finally, to obtain rubber, some merchants going so far as to take rubber direct from the gatherers, in disregard of the rights of the employers of the latter. The buying price of rubber on the spot advanced greatly, as well as the cost of provisions, which were in no case obtainable from local sources—all these conditions contributing to produce a crisis, the effects of which have not yet been fully recovered from. Thus is to be explained, in part, a decreased output of Bolivian rubber for the past year.

Some idea of conditions on the Beni may be gained from the following comparison of the prices of provisions for various years—in francs per arroba of 25 pounds:

	1876.	1884.	1896.	1900.
Rice.....	4.	16.	24.	32.
Coffee.....	4.	24.	30.	40.
Sugar.....	8.	24.	30.	36.@72.
Dried meat.....	4.	18.	12.	36.@40.
Salt.....	4.	24.	30.	30.@50.
Cheese.....	2.40	16.	30.	56.@70.
Tobacco.....	8.	50.	60.	60.@70.

anos [= \$9.65] per 100 pounds. The price increased steadily, until, during 1900, from 128 to 134 bolivianos [= \$49.40 to \$51.72] was paid for 100 pounds of rubber. Meanwhile the London price of rubber had advanced greatly, in spite of which the Beni rubber business would have been done at a loss, but for the profits on goods sold to the rubber collectors. The freight on rubber shipped by the river to Madeira to Pará has risen to 1500 to 1700 francs [= \$289.50 to \$328.10] per ton of 2204 pounds, or an average of 14 cents a pound, the trip extending over 70 days. As high as \$6000 francs [= \$1158] per ton has been paid for goods ascending the Madeira, the trip consuming 230 days.

The more oppressive of these conditions could be remedied by the introduction of larger amounts of working capital, which would render merchants more independent of local circumstances, and also improve facilities for transportation, and this seems likely to take place in the near future.

Braillard & Co., a French house, opened a trading station in 1882 at Reyes, at the head of the Beni, to which they have added branches, and now have their principal house at Riberalta, at the confluence of the Beni and Madre de Dios rivers. Besides trading generally, they control three rubber properties: (1) "Conquista," between the Manuripi and Madre de Dios rivers, of about 656 square miles; (2) "Victoria," on the Orton river, of about 60 square miles; (3) "Rosario," on the Madre de Dios, 66 square miles.

Deves & Co., another French house, became established in 1890, also at Reyes, at Madidi, and on the Geneshuaya, a branch of the Beni. They, too, have now a house at Riberalta, and control 520 square miles of rubber concessions on the lower Madidi river, and rights over 1150 square miles of the remainder of the basin of the same river. Also an area of 1570 square miles on the river Geneshuaya.

The Orton (Bolivia) Rubber Co., Limited, with £340,500 capital, was registered in London in 1897, to acquire concessions on lands previously worked by the late Dr. Antonio Vaca Diaz, and others, on the river Orton. The difficulties encountered by the first expedition sent out by this company from Europe, including the death of Dr. Diaz, who was to be its managing director, were detailed in THE INDIA RUBBER WORLD in December, 1897, and May, 1899. The company has continued at work, however, and is an important concern.

Nicolas Suarez is at the head of another prominent house in this region, besides which there many others of secondary importance. While competitors in a general sense, the four houses here named have united in forming a company for opening roads to the southwest, with a view to better communication with Lake Titicaca and the railway running thence to Mollendo, on the Pacific coast.

There have since entered the Bolivian rubber field two companies, in which American capital is interested, and there is reason for the belief that ultimately enough money and enterprise will be found at work, in view of the steadily increasing demand for rubber, to place the rubber industry in this region upon a sound and profitable basis. It must be understood that much preliminary work of value has been done by such companies as those named above, in the way of locating good rubber fields, inducing natives to gather rubber, opening *estradas* or paths through the forests, establishing stores, building launches, entering into contracts, and, generally, creating a valuable asset in the shape of "good will."

In 1882 the buying price of rubber on the Beni was 25 bolivi-

THE RUBBER PLANTING INTEREST.

PRIVATE RUBBER PLANTING IN MEXICO.

WRITING to THE INDIA RUBBER WORLD, Mr. James C. Harvey, of the plantation "La Buena Ventura," at San Juan Evangelista, Vera Cruz, Mexico, states that his planted rubber continues to grow most satisfactorily, and that he has now nearly 150,000 trees under cultivation, besides several thousand cacao trees. "The time is drawing near," he adds, "when inquisitive people in the East will be able to satisfy their curiosity as regards the production of rubber from cultivated trees." This plantation is privately owned in the sense that the public has not been invited to take an interest in it, but there are associated with Mr. Harvey in its ownership several citizens of Los Angeles, California, where Mr. Harvey at one time lived. The management is wholly in the hands of Mr. Harvey, who is an experienced tropical planter and who makes his home on the estate.—The above is not the only example of privately cultivated rubber in Mexico, which may be worth noting on account of the prominence attained in the public mind by large companies who are offering for sale shares in coöperative planting enterprises. Mr. Maxwell Riddle, mentioned several times in this paper, assures THE INDIA RUBBER WORLD that he has visited in Mexico many private estates, owned by planters from the United States, who have the means to carry out such enterprises as they have undertaken, some of whom have been in Mexico for several years and are pleased with their success thus far, and whose principal object is the cultivation of rubber, whatever other crops they may have in hand. Mr. Riddle has an estate near San Juan Evangelista, which is the postoffice for the following planters interested in rubber: George R. Miller, Jr., Dr. W. S. Cockrell, Eugene Griffin, Harry Lane, W. R. Waite, E. A. Dorman, Drs. W. C. and W. L. Hall, M. H. Newmark, and R. A. Chadwick. Then at Coatzacoalcos are J. K. McClymonds, F. L. McFarland, Judge H. D. Barto, and O. M. Powers. William A. Clark, the Montana millionaire and the owner of a large estate near Alvarado, is planting rubber extensively, and near him are Tarr Brothers and Charles T. Wing, similarly interested but on a smaller scale. A. G. Weiss, of Chicago, has a plantation near Huianguillo, in Tabasco, and the list could be still further extended. Willis & Trowbridge and Pearson & Leversly, both of Tuxtepec, state of Oaxaca, are said to have the largest private rubber plantations in Mexico, with the exception of Senator Clark and Mr. Weiss, above named.

ILLINOIS-MEXICO CO., OF CHICAGO.

INCORPORATED under Illinois laws; capital \$30,000. Officers: George Mason, of Chicago, president; John S. Spencer, of Bloomington, Illinois, vice president and general manager; Eugene R. Cox, Chicago manager of the Barber Asphalt Co., secretary and treasurer. The other directors are E. W. Brooks, of Chicago, and E. R. Morgan, of Bloomington. The company have bought two plantations near Minatitlan, on the Coatzacoalcos river, in Vera Cruz, Mexico, belonging to Roland Hughes, of Kansas City, and John S. Spencer, named above. Considerable improvement had been made on these estates, including the planting of coffee, rubber, and cacao. There are said to be 2000 six year old rubber trees and 5000 younger ones, and 24,000 coffee plants that have borne three crops. Mr. Spencer, who has been in Mexico much of the time for twelve years, and will have an important interest in the new com-

pany, is to be resident manager. It is intended to plant 300 acres in rubber this year.

MEXICAN INVESTMENT AND MANUFACTURING CO.

[Plantation at Tihuatlan, state of Vera Cruz, Mexico. Office: Society for Savings building, Cleveland, Ohio.]

INCORPORATED in 1897 under Iowa laws; capital, \$5,000,000. Home office, Dubuque, Iowa; principal office, Cleveland, Ohio; branches in New York and Mexico City. Objects, the cultivation of India-rubber and other tropical growths, first in Mexico, and later elsewhere, as in the Philippines; also, to manufacture such articles as can be made profitably from plantation products. The company own what they call the Tihuatlan plantation, of 5000 acres near the town of the same name, in the Tuxpam valley, state of Vera Cruz, Mexico. The work of planting has been begun, and it is stated that the entire capital stock of the company has been subscribed for. The officers are: William Vernon Backus, of Cleveland, president; James N. Huston, of New York, late treasurer of the United States, vice president; Charles O. Evarts and M. K. Mullin, of Cleveland, treasurer and secretary.

LOS ANDES RUBBER, LUMBER, AND FRUIT CO. (NEW ORLEANS).

[Mentioned in THE INDIA RUBBER WORLD, November 1, 1901—page 45.]

THIS company has a concession from the Guatemalan government of 200 manzanas [=440 acres] of land, free of taxation for 13 years, after which it may be purchased by the company at \$2.50, gold, per manzana. As soon as this tract is placed under cultivation, another may be obtained on the same terms, and so on, as long as the company may be prepared to extend its operations, to a limit of 12,500 acres already located. It was reported November 15 that 400 well grown rubber trees (*Castilloa elastica*) had been counted on the first 200 manzanas of land, besides many smaller trees; 40 manzanas had been cleared for planting; and 15,000 rubber seedlings from neighboring forests had been received, out of an order for 60,000. They were planted 200 to the manzana [=91 per acre], and the intermediate spaces are to be planted in bananas, until the rubber trees become productive.

ROCHESTER-MEXICAN PLANTATION CO.

INCORPORATED under New York laws, November 27, 1901; to deal in real estate and tropical products, including India-rubber; capital, \$60,000. Directors: Charles H. Angell, John Zeeveld, and J. B. Snyder, Jr.—of Rochester, New York—and Augustus S. Pendry, of Elmira. Offices: Granite building, Rochester.

COSTA RICAN RUBBER TREES FOR THE CONGO.

H. STUART HOTCHKISS, secretary of The L. Candee & Co. (New Haven, Conn.), writes in *The Forester* an article on "The Rubber Industry of Costa Rica," in which he says: "Near Port Limon on the coast many young rubber trees are grown merely for exportation, and with no idea of tapping. These are grown among the cacao and when about a year old are cut off just below the leaves, and the stems are packed in boxes, the layers being separated by a little dry earth. The market for this queer product is, I understand Belgium, whence they are reshipped to the Congo."

* * *

THE incorporation is reported of the Orizaba Rubber Plantation Co., January 10, under South Dakota laws, at Yankton, in that state, with \$100,000 capital.

THE CANADIAN RUBBER SHOE ASSOCIATIONS.

ON January 21, there gathered in Toronto the rubber shoe men of Canada, comprising the leading manufacturers and jobbers, most of whom belong to the two organizations known as the "Rubber Shoe Manufacturers' Association" and the "Rubber Boot and Shoe Jobbers' Association." The manufacturers met at the Queens Hotel and spent nearly the whole afternoon in the transaction of business. Those present were: S. H. C. Miner and J. H. McKechnie. Granby Rubber Co.; J. J. McGill, Montreal, Canadian Rubber Co.; James Robinson, president, and Walter Binmore, secretary, of the Maple Leaf Rubber Co.; C. N. Candee and R. H. Greene, of the Gutta-Percha and Rubber Manufacturing Co.; A. L. Breithaupt, of the Berlin Rubber Co., and M. C. Mullarkey, Montreal, of the Boston Rubber Co. of Montreal. Price lists were rearranged, and arrangements made for the opening of the rubber season on April 1.

At the same time the rubber boot and shoe jobbers held their meeting in the council chamber of the Board of Trade building. There were about thirty members present. James Robinson, the retiring president, presided. The retiring secretary, A. B. Pickett, of Montreal, delivered a brief address on the condition of the trade, and read his annual report. The following officers were then elected: President, J. A. McLaren, Toronto; vice-presidents, W. S. Louson, Montreal; W. A. Hamilton, Toronto; R. T. Hayes, St. John, N. B.; and J. J. Kilgour, Winnipeg; treasurer, J. S. King, Toronto; secretary, J. A. Fullerton, Toronto; executive committees: For Ontario, A. Mc-

Pherson, Charles Bonnick, Toronto; For Quebec, James Robinson, A. C. Lambert, Montreal; For the Maritime Provinces, W. M. Angus, E. L. Rising, St. John, N. B.; For Manitoba and the Northwest Territories, Alfred A. Andrews, A. Congdon, Winnipeg.

Incidentally, it may be noted that the meetings of the jobbers and manufacturers were really held in conjunction, and that the two associations work together in every respect. The business accomplished is briefly summarized in the following articles:

I. Business for the new season must not be solicited by Jobbers before March 3, prox.

II. The list and discounts for the coming season will be issued on March 1.

III. No discount greater than 12½ per cent. additional shall hereafter be allowed by manufacturers to Jobbers on seconds or obsoletes.

IV. No second quality goods of any description shall be cartoned.

V. An effort will be made to dispose of punched goods through the jobbing trade and manufacturers have agreed to hold no auction sale should their entire output of these goods be disposed of in this way. In any case there will be no auction sale earlier than November 10, and should such be necessary, the goods will only consist of such lines as it has been impossible to dispose of otherwise.

VI. The list of special retail accounts to whom manufacturers are allowed to sell direct shall be subject to the approval of the Association and shall consist of concerns who buy, accept and pay for at least Ten Thousand Dollars' worth of goods net during the year.

VII. All goods sold hereafter as obsolete or rejected, whether by



BANQUET OF THE CANADIAN RUBBER SHOE JOBBERS.

manufacturers or Jobbers, shall be punched with the regulation punch of the Association, which punch shall be not less than one-eighth inch in diameter.

VIII. That it is a violation of the selling agreement to send out goods on consignment and take back unsold goods at end of season.

IX. A satisfactory understanding having been reached concerning the difficulty which led to the resignation of the Boston Rubber Co. of Montreal, Limited, this concern continues its membership in the Association.

The by-laws of the Rubber Boot and Shoe Jobbers' Association were also amended as follows:

I. No member of this Association shall directly or indirectly sell rubber footwear of any kind whatever at less than the regular price list and terms set forth from time to time by manufacturers of rubber footwear in the Dominion of Canada, except as hereinafter provided.

II. Any member having unsalable lines of goods on hand may sell the same at a lower price than provided by said lists, after obtaining permission in writing from the Local Executive before such permission is granted, and all invoices of such goods shall be stamped "special" across the face of same, and notice of such permission shall be given by such local vice-president to the secretary, who shall notify all members of the association of such permission. Such unsalable lines shall, in every case, be punched with the regular punch of the Association which shall be a round hole of not less than $\frac{1}{8}$ inch in diameter.

In the evening the delegates and guests were tendered a complimentary banquet by the rubber shoe trade of the city of Toronto, at McConkey's café. There were about 50 present, the tables being decorated in a very artistic manner, and the dinner all that could be desired from a gastronomic point of view.

R. H. Greene, of the Gutta Percha and Rubber Manufacturing Co., and secretary of the association, read letters of regret from Montague Allen, president of the Canadian Rubber Co.; Lester Leland, vice president of the United States Rubber Co.; A. W. Stedman, of George A. Alden & Co.; C. F. Smith, of James McCurdy & Co., Ltd.; H. D. Warren, president of the Gutta Percha and Rubber Manufacturing Co. of Toronto; and W. E. Barker of the Enterprise Rubber Co.

Mr. James Acton, editor of the *Canadian Shoe and Leather Journal*, was chosen as toastmaster, and the choice was a particularly happy one. He was serious without being prosy, witty without effort, possessing in an unusual degree the faculty for brief genial introduction, and happy appreciative after comment. He made it easy for each speaker to appear at his best. After coffee and cigars, the toast "The King" was recognized by the singing of "God Save The King," with much enthusiasm. The Hon. E. J. Davis, was then introduced and in a masterly manner reviewed the present condition of Canadian industries, closing with an earnest plea for still greater progress, courage, and general commercial honesty. The subject of his toast was "Our Country," which was also responded to by Mr. Paul Jarvis, secretary of the Toronto Board of Trade. Mr. W. A. Hamilton then introduced the toast, "The Rubber Shoe Manufacturers' Association," which was responded to in an exceedingly practical and happy vein by Mr. S. H. C. Miner, of the Granby Rubber Co., Ltd., and Mr. A. L. Breithaupt, of the Berlin Rubber Co. Mr. Alexander McPherson, of the Canadian Rubber Co., then spoke on the toast "The Rubber Boot and Shoe Jobbers' Association," introducing Mr. James Robinson, of the Maple Leaf Rubber Co., Mr. J. Daoust and Mr. J. J. Kilgour.

Charles N. Candee, of the Gutta Percha and Rubber Manufacturing Co. of Toronto, then proposed the toast: "American Rubber Interests," which was greeted by a great deal of enthusiasm and the singing of "Hail! Columbia." This was responded to by Mr. C. H. Arnold of Boston, and Mr. H. C. Pearson, editor of THE INDIA RUBBER WORLD. The toast

"Retail Shoe Trade" was given by Mr. J. S. King and responded to by Messrs. S. R. Hanna and C. J. St. Leger. Mr. James Robinson introduced the toast "The Press," which was responded to by Mr. G. H. Parkes, of the *Shoe and Leather Journal*, and Mr. J. A. Fullerton, secretary of the Jobbers' Association.

The banquet was notable for the earnestness with which all present spoke, but at the same time was enlivened by stories that were greeted with gusts of laughter and songs in which all joined with the utmost heartiness. Between the toasts, Mr. J. Ruthven Macdonald entertained the banqueters with solos and recitations—instrumental music being furnished by the Napolitano orchestra.

A very pretty souvenir of the banquet was a rubber shoe lined with silk in which was served the punch. The menu was a very pretty piece of printing, done in gold and blue and ornamented with fac-similes of the brands of the six Canadian companies who manufacture rubber shoes.

SOME WANTS OF THE RUBBER TRADE.

[222] FROM a rubber jobber in Fall River: "We wish to know the name of any New York importer who has rubber sponges for sale. We understand that the goods come from Russia."—A similar request comes from a jobber at Hartford.

[223] "Can you tell us who manufactures churns for mixing rubber with benzine?"

[224] From a Western mill supply house: "I am in the market for a quantity of embossed rubber chair mats, about $58\frac{1}{2}$ inches in diameter, and have been unable to learn of any manufacturer who can supply the same."

[225] From Philadelphia: "We should like to have you advise us who are the different manufacturers of covered gas tubing."

ANSWERS.

[213] THE B. F. Goodrich Co.—New York branch—write: "We manufacture a so-called 'Pure Pará Tape' which will, we believe, answer your correspondent's purpose."—George Borgleldt & Co. (New York) refer to the Pará tape made by the Hanover (Germany) Rubber Co., and imported by them. —The Mineralized Rubber Co. (New York) write that they are importers of Pará jointing tape, from England, whence they believe "most of the moderate quantities that are used here" have come.—A London firm has also sent in the care of this journal an answer to the same inquiry.

A MANUFACTURER ON GRADING BALATA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have been interested in your recent articles on Balata, and venture a few remarks in regard to this material. We use a little Balata in our rubber factory, but the working is not satisfactory, because there is no discrimination shown with respect to quality by the collectors or importers—that is to say, in the sheet Balata. It is sold in two forms, "sheet" and "block." The block, I understand, comes from Venezuela. The block Balata, in my opinion, is cured more evenly than the sheet, though I am not an expert judge of the material. It is my opinion, however, that if more care was taken in grading it, say making three different grades of the sheet, that a good price could be obtained for the high grade Balata, and I think the average would bring the exporter more money per pound than at the present time, coming all grades mixed, which is very unsatisfactory to the consumer.

F.

January 6, 1902.

THE RECENT FAILURES IN THE RUBBER TRADE.

GEORGE WATKINSON & CO.

ON December 31 George Watkinson and Irving Watkinson, his son, individually and as partners trading as George Watkinson & Co., manufacturers of rubber boots and shoes in Philadelphia, were adjudged voluntary bankrupts in the United States district court at Philadelphia. Application for a decree to this effect was made by their attorney, Preston K. Erdman, immediately upon an attachment having been secured against the company for failing to meet three notes of about \$5000 each, made by them endorsed by the Crude Rubber Co. (New York) and discounted by the latter in various banks. The Provident Life and Trust Co. of Philadelphia was appointed receiver, and Theodore M. Etting, referee. The schedules filed show liabilities of the firm estimated at \$1,447,685.05 and assets at \$1,048,512.44. The following appears in a statement of the schedules published in *The Weekly Bulletin*, a Boston credit paper:

There are 176 notes, running from \$4691 up to \$25,000, the great majority of which are for either \$5000 or a little more or a little less than \$5000, though ten of the number are for \$10,000 each, aggregating \$941,911.29, running to Flint & Co., of New York, described as follows:

"These notes were given at different times and are due at different dates. They are the promissory notes of the bankrupts to their own order, and by them indorsed and delivered to Flint & Co., for the accommodation of Flint & Co., and to cover certain sales of merchandise and advances and loans of money from Flint & Co. to bankrupts. Upon the adjustment of the account between them the bankrupts should pay about \$375,000 of these notes. The remainder of them, if negotiated, should be paid by Flint & Co. The bankrupts do not know who are the holders of these notes, if negotiated."

George Watkinson & Co. have been in business since 1896, during which time a large trade has been built up in the sale of rubber footwear to retailers direct, their customers numbering many thousands. On account of the extent of their trade, and of the number of orders in hand, it is understood that Philadelphia parties will attempt to reorganize the company, and continue the operation of the plant. It is being run for the present by the receivers. Mr. Watkinson, in 1860, became a bookkeeper for Henry Elliott, a rubber shoe jobber in New York, and later became a partner; in 1871 he went to New Haven as general selling agent for the Candee Rubber Co., where he remained for eighteen years; he then organized the Colchester Rubber Co., which, in 1893, he merged in the United States Rubber Co., for which company he became assistant general manager. On the expiration of his contract with the United States company he established the Philadelphia factory.

CRUDE RUBBER CO.

THE Crude Rubber Co., of New York, went into the hands of a receiver on January 4. On the application of counsel for Flint & Co., as stockholders in the Crude Rubber Co., Judge Robert R. Prentis, of the circuit court of the city of Norfolk, Va., appointed William W. Ladd, Jr., receiver of the Crude Rubber Co. in that jurisdiction, it being a corporation under the laws of Virginia. On the same date Judge E. Henry Lacombe, of the United States circuit court for the southern district of New York, in ancillary proceedings, confirmed the appointment of Mr. Ladd as receiver. The bond of the receiver is \$50,000 for each jurisdiction. Mr. Ladd was for years deputy cham-

berlain of the city of New York and was later an assistant corporation counsel and the personal legal adviser of Mayor Van Wyck.

It was stated by William Nelson Cromwell, counsel for Receiver Ladd and for Flint & Co., that the application for a receivership was taken in the interest of the creditors and shareholders of the Crude Rubber Co., and to prevent preferences by attachment and dismemberment of the property and assets of the company. "The company has conducted a large business in South America and in this country. The present stock and merchandise consist of rubber and bills receivable to the amount of over \$3,000,000, mostly under pledge to bankers. The direct liabilities are stated at about \$3,000,000, and guarantees and endorsements at about \$2,000,000, of which about \$800,000 is in respect of paper of George Watkinson & Co., of Philadelphia, who failed a few days ago for several millions."

The Crude Rubber Co. was chartered by the corporation court of Norfolk, Virginia, February 26, 1897, and commenced active operations in August of that year, with offices at No. 66 Broad street, New York. The company was organized with George S. Dearborn, of what was at that time the New York shipping firm of Flint, Dearborn & Co., president; Henry Earle, of the old rubber brokerage firm of Earle Brothers, vice president and general manager; Charles M. Bull, secretary; and Paul de Lacy Liebermann, treasurer. The remaining directors were Richard F. Sears, engaged in the rubber trade at Pará, and William A. Young, of Norfolk, the resident director in Virginia. The company had a capital of \$1,000,000, being \$600,000 preferred stock, stated to have been fully paid in cash, and \$400,000 common stock, issued for good will and service contracts. The company took over the business of R. F. Sears & Co., of Pará, established in 1881, and formed connections on the Amazon with the Sears Pará Rubber Co., chartered at Norfolk, Va., July 16, 1897, with R. F. Sears president and Henry Earle vice president. Recently there were some resignations and changes; the office of president was vacant, and the board of directors comprised Messrs. Earle and Liebermann, R. C. Mackay, H. C. Potter, and Anton Declisur. In connection with the recent proceedings it was stated that the \$400,000 of common stock had been retired, and that 1220 of the 6000 shares of preferred stock was held by Flint & Co., which firm consists of Charles R. Flint and his brother Wallace B. Flint.

Mr. Ladd, as receiver, took formal possession of the offices of the Crude Rubber Co. (removed some time since to No. 25 Broad street), on January 6, relieving a deputy sheriff in charge under attachments from the New York supreme court, on account of three notes made by Watkinson & Co., for about \$5000 cash, indorsed by the Crude Rubber Co., and protested for non payment.

Simultaneously with the appointment of a receiver for the Crude Rubber Co., its stock of rubber, at a valuation stated at \$2,000,000, was sold to the International Crude Rubber Co. This was done, according to a published interview with Mr. Flint, with the consent of the principal creditors and all parties in interest within reach. Of this amount \$1,000,000 worth was sold at a concession to the United States Rubber Co., on sixty day notes. "This rubber," according to Mr. Flint, "is pledged to banks as security for loans, and this method of selling the equity in it to a solvent concern is adopted to prevent dumping a large quantity of rubber on the market at one time. The highest price possible will be obtained, for the creditors of the

Crude Rubber Co." The International gets nothing from the transaction but 1 per cent. brokerage, the rest of the proceeds going to the bankers who hold the rubber as collateral, and, in the case there is anything over, to the other creditors of the Crude Rubber Co. Attorney Cromwell stated to the press that the fact that the bill of complaint in the application for a receiver set forth that the Crude Rubber Co. owned \$2,000,000 worth of rubber, whereas, as a matter of fact, the International Crude Rubber Co. has purchased that same rubber during the day, was not a conflict of statements in reality, and that no discrepancy was involved.

The International Crude Rubber Co. was incorporated in New Jersey, December 24, 1900, with an authorized capital of \$30,000,000, as a means to carrying out a plan for a general consolidation of the crude rubber trade. The signatures to the incorporation papers gave little indication of the parties in interest, but a prospective list of directors was given out, including representatives of important rubber importing interests, the United States Rubber Co., and the Standard Oil Co., followed by published announcements that all of these, except such as were controlled by Mr. Flint, had withdrawn. Subsequently nothing was heard of the International company for about a year, when it was announced that it would become active, succeeding the Crude Rubber Co. as its first step. Charles R. Flint is president of the International. In addition to buying the stock of rubber held by the Crude Rubber Co., the International has also purchased its shares, so that the receiver will have nothing to do but wind up the former company's affairs. There is no possibility of a reorganization to be considered.

The appointment of a receiver as above outlined was temporary. On January 24 motion was made before Judge Lacombe to continue W. W. Ladd as permanent receiver, when an argument was made by counsel representing creditors of the Crude Rubber Co., holding claims aggregating upwards of \$700,000, for the appointment of a second receiver, representing the creditors, to act with Mr. Ladd. Included in this amount was a claim of \$550,000 by George Watkinson & Co., of Philadelphia, and claims of certain Philadelphia banks. Counsel expressed satisfaction with Mr. Ladd's appointment, but said that, as he represented the stockholders, they thought the creditors should also be represented. Judge Lacombe entertained the same view, and directed that papers be drawn for the appointment as second receiver of Arthur H. Masten, an attorney of New York, and submitted to him on January 31.

Meanwhile no statement of the Crude Rubber Co.'s affairs has been made public by the receiver.

According to an interview printed in the New York *Sun*, Mr. Flint said that one reason for choosing the present time to apply for a receiver for the Crude Rubber Co. was that so good a receiver as Mr. W. W. Ladd was available. Mr. Flint said that he believed that all but five of the creditors of the company would be paid in full, and that these five were not worrying, but that he failed to see how the stockholders were to get anything. Mr. Flint said that no notes of his were concerned in any way, and that the company itself had issued no notes. Two open winters and a falling market Mr. Flint gave as the cause of the collapse, which was precipitated by the Watkinson failure. The large stock had been accumulated to prevent a corner in rubber, which had been attempted some little time ago, he said.

* * *

CHARLES R. FLINT and Wallace B. Flint have resigned as directors and also as vice president and secretary, respectively, of the Export Lumber Co., organized by Mr. Flint in 1878.

They are succeeded by W. A. Taft, of Boston, as vice president, and Frank J. Saxe, as secretary.

The Messrs. Flint are understood to have disposed of a part of their holdings in Flint, Eddy and American Trading Co., to Trenor L. Park and others, besides which the latter have bought \$600,000 of treasury stock, thus increasing the working capital of the company and securing control of its business. Mr. Park was identified with the American Trading Co. and that name is now to be resumed by the corporation. Mr. Flint remains a director.

L. H. Lapham, vice president of the United States Leather Co., has purchased of Wallace B. Flint the latter's stock in the American-Hawaiian Steamship Co., and succeeded to the offices lately resigned by Mr. Flint. The firm of Flint, Dearborn & Co., merchants and shipping agents, has been dissolved, and is succeeded by Dearborn & Lapham, with a capital of \$2,500,000. And Mr. Dearborn lately resigned the presidency of the Crude Rubber Co.

Articles of incorporation were filed with the secretary of state at Trenton, New Jersey, on January 22, for Flint & Co., to have \$5,000,000 capital. The papers were signed by August Belmont, Robert M. Gallaway, Robert Y. Hebden, George R. Sheldon, Valentine P. Snyder, Charles R. Flint and Wallace B. Flint. The object is understood to be the liquidation of certain interests with which the old firm of Flint & Co. will no longer be prominently identified, as well as to consolidate and develop certain new commercial interests.

REPORT ON THE AMAZON RIVER CABLE.

THE Amazon Telegraph Co., Limited, operating the Amazon river cable between Pará and Manáos, had a gross income during the year ended June 30, 1901, of £40,109 7s. 9d., and total expenses of £36,468 7s. 10d. But after allowing for debenture interest and sinking fund, the net result of the year's business was to increase the company's debit balance, now amounting to £69,173 1s. 4d. A favorable circumstance is that both traffic receipts and the payments on public subsidy increased during the year. The net loss on working was only £5404, whereas during the preceding year it reached £34,468. The growth of business had been as follows:

In 1899.....	15,000	messages of	166,000	words.
In 1900.....	20,000	"	212,000	"
In 1901.....	41,600	"	440,000	"

It is believed that traffic will exist whenever the company can deal with it by giving continuous communication, and the hope still prevails that this will become possible. The landline opened by the Manáos government was helpful during the year in maintaining communication during cable interruptions. A cable repair steamer was ordered built in England, at a cost of £39,200, which was expected to be ready to proceed up the Amazon during the past month to make repairs. During the business year under review, £150,000 of debentures were created, ranking in priority to existing debentures, by means of which a loan was cancelled and the company's finances otherwise put in better shape.

THE Canadian Rubber Co. of Montreal have a fire brigade of 24 men, with a hose reel and engine, which was inspected recently by the chief officials of the city fire department and highly commended. The firemen had a stream of water on within 15 seconds after the alarm was given.

THE rate for Caoutchouc over the Congo railway is 409 francs per metric ton—practically 3½ cents per pound.

SKETCH OF CHARLES R. FLINT.

THE most talked of man in connection with India-rubber interests, in this or any other country, for several years past, undoubtedly has been Charles R. Flint, of New York, long engaged, in addition to other important interests, as a crude rubber merchant, and latterly a director in large manufacturing enterprises. The fact that Mr. Flint has lately disposed of his holdings in several rubber companies suggests the present time for giving in these pages a review of his business career.

Charles Ranlett Flint was born January 24, 1850, at Thomaston, Maine, being descended from a Welsh family who settled in 1642 near Salem, Massachusetts. His father, Benjamin Flint, began business as a shipbuilder in 1837, removing in time to New York. The education of the son was begun in the Maine schools, and he was graduated from the Brooklyn Polytechnic Institute at the age of 18. Soon afterward, it is related, he was an applicant for a position in the New York shipping house of W. R. Grace.

"Do you think he can do the work we require?" some one in the house asked Mr. Grace.

"A chap with his jaw can do anything," was Mr. Grace's response, and the young man began his work.

Mr. Flint in 1871 became a partner in Gilchrist, Flint & Co., engaged in a general commission business with South America. The next year this firm was merged with W. R. Grace & Co. In 1874 and again in 1876 Mr. Flint visited South America in the interest of his firm, in the latter year establishing the house of Grace Brothers & Co., at Callao, Peru, where he remained for a year. He retired from connection with Mr. Grace in 1885, and established the firm of Flint & Co., lumber, India-rubber, and general commission merchants. In 1895 their general shipping business was consolidated with that of Coombs, Crosby & Eddy as Flint, Eddy & Co., a corporation, and in 1900 a combination was made with the American Trading Co. as Flint, Eddy and American Trading Co. This firm, with \$4,000,000 capital, and having connections on every continent, is reputed to have done an import and export business of \$25,000,000 in one year. Meanwhile Mr. Flint has been connected with the firm of Flint, Dearborn & Co., in the Pacific shipping trade, in which was employed, at one time at least, the largest fleet of clipper ships under the American flag.

While still associated with the Grace firm, in 1878, Mr. Flint aided in organizing the Export Lumber Co., of which he has since been a director and vice president. In 1880 he became president of the United States Electric Lighting Co. He is president of the American Ordnance Co., a director in the American Woolen Co., a director and treasurer of the Hastings Pavement Co., and the Manáos (Brazil) Railway Co., besides being a director in other industrial corporations and in six banks and financial institutions in New York.

But it has been in connection with rubber interests that Mr. Flint's name has come most prominently into public view, and particularly in the consolidation of such interests. For he is preëminently an organizer of capital in industrial affairs. He was one of the first prominent advocates in America of indus-

trial combination, achieving his first success in bringing the rubber shoe industry under a single control as the United States Rubber Co., with \$50,000,000 capital, which for a time was one of the largest industrial corporations in existence, its plan of organization serving as a model for innumerable later enterprises. Mr. Flint's services as an organizer thus came into such demand that he has been described by a recent writer as being "distinctively the promoter of the day."

Besides serving as treasurer of the United States Rubber Co. for nearly ten years, Mr. Flint was active, in 1892, in bringing about the combination of interests known as the Mechanical Rubber Co., in which he served a director, and which was merged, in 1899, with a larger consolidation—the Rubber Goods Manufacturing Co.—of which he was, until recently, chairman of the board of directors. He was likewise in the directorate of three or four of the constituent companies of the United States Rubber Co., and of the American Chicle Co.—the \$9,000,000 chewing gum combination. The above list, by the way, does not embrace five new industrial corporations which Mr. Flint is credited with having brought about within the past few months, involving \$60,000,000 of capital.

From the inception of Mr. Flint's business career he has taken an interest in the crude rubber business. During his connection with W. R. Grace & Co. that company engaged actively in the Pará rubber trade. For some years Mr. Flint was treasurer of the New York Commercial Co., Limited, importers of crude rubber, and upon disposing of his interest in that company he organized the Crude Rubber Co.

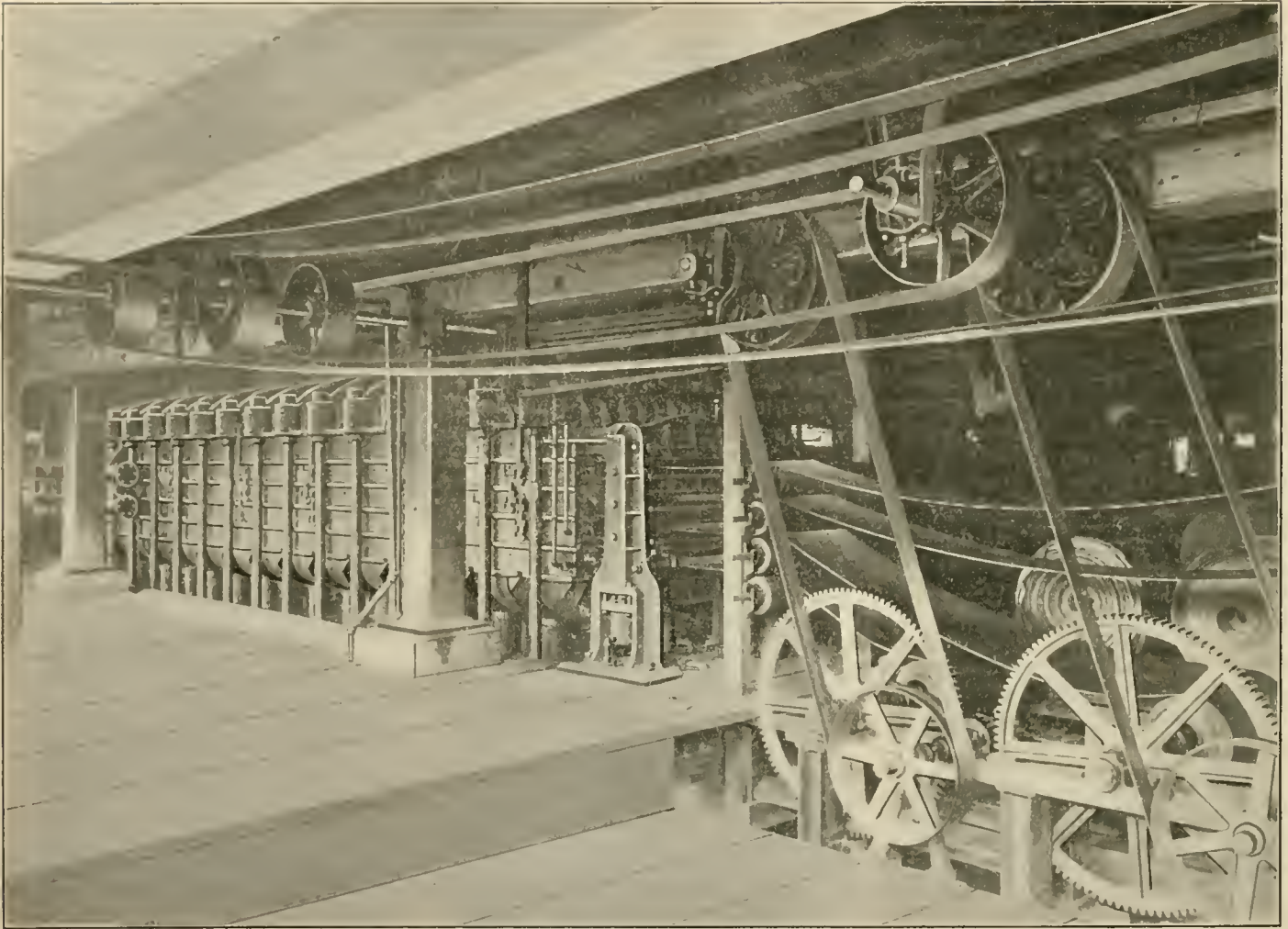
Mr. Flint has been interested in South American affairs of other than a business character. In 1877 he was appointed consul general for Chile at New York, resigning that office on the outbreak of war between Chile and Peru in 1879. In 1884 he became consul for Nicaragua at New York, and as such represented that republic in negotiating with American capitalists to form a canal construction company. Still later he served as consul general for

Costa Rica. In 1893 he fitted out, at New York, at the request of the Brazilian government, an armed fleet to suppress the navy of that republic, then in revolution.

Those who know him well consider Mr. Flint as much a sportsman as he is man of affairs. In his school days he was foremost in every kind of athletic sports, and he has lost none of his early love for outdoor exercise. It was long well known that every Saturday was his day of rest, devoted to shooting, fishing, or yachting, no matter what the demands of his business might be. He is a member of the New York, Seawanhaka, Larchmont, and Atlantic yacht clubs, and was one of the syndicate who, with the *Vigilant*, successfully defended the America's Cup against Lord Dunraven's *Valkyrie*. Every New York newspaper has contained references to Mr. Flint's use of an automobile on the streets of this city and his success as a chauffeur. Mr. Flint is square and stocky of figure; big boned, straight shouldered, and keen eyed; with closely cropped side whiskers and thin mustache that scarcely veil the suggestion of determination that marks every feature. Mr. Flint was married in 1883 to Miss Simmons, of Troy, New York, and his home is at No. 4 East Thirty-sixth street, New York city.



CHARLES R. FLINT.



A MONSTER BELT PRESS IN A RUBBER FACTORY.

A BELT press unique in many particulars, and without doubt the largest ever built, is shown in the illustration on this page. It is what is known as a five platen press, which means that four planes of belts may be stretched and vulcanized at the same time, and all under the control of one man. The bare citation of the dimensions of this giant among presses gives but a faint idea of its size or its productiveness. It is, however, interesting to note that its weight is 130 tons, or three

times that of an ordinary passenger locomotive. Its length is 30 feet, and its width 50 inches, which gives a total pressure area of 500 square feet. The hydraulic pressure of each ram is 3000 pounds. The capacity of the press is 8 tons of rubber belting in ten hours, or twelve miles of 2 inch belting a day. This press was built for the Boston Woven Hose and Rubber Co., and is now running in their factory at Cambridgeport, Massachusetts.

AMERICAN RUBBER SHOES IN ENGLAND.

A DISCUSSION, in the columns of the *London Daily Chronicle*, on the relative merits of American and English leather footwear, has drawn from Henry Bolton, a London dealer in American boots and shoes, the following expressions:

"The importation of American rubber overshoes far exceeds the importation of boots and shoes, and it is obvious that these rubbers are not intended for American boots only. There are scores of boot dealers in this country who claim to be too patriotic to buy American boots and shoes, but they all carry a large stock of rubber overshoes, which is, of course, a conclusive proof that English boots and shoes are not perfect in the respect of being absolutely waterproof."

The *India-Rubber Journal* (London), in a review of the rubber trade for 1901, remarks: "Encouraging also, to those con-

cerned, is the gradual wearing away of British antipathy to goloshes and rubber shoes. This is owing, no doubt, to the improved elegant close fitting shapes, which are now the rule instead of the exception. The adoption of American patterns in boots has helped this section of the trade."

The United States consul at Harput, Asiatic Turkey, Mr. Norton, reports: "The value of the American shoe is thoroughly appreciated here, as hundreds of emigrants from the district are employed in the shoe factories of eastern Massachusetts. At the suggestion of this consulate, a returned ex-operative is arranging to establish here an agency for American footwear. There would probably be a good demand for rubber shoes, likewise, as the Russian and German wears which reach this market are of a decidedly inferior grade."

Some American export figures on another page make interesting reading in connection with the above notes.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED DECEMBER 3, 1901.

- N**O. 687,824. Soft tread horseshoe. William T. French, Greenville, Ohio.
- 688,041. Composite heel lift. John F. Videto, Framingham, Mass., assignor to George A. Remick, trustee, Newton Center, Mass.
- 688,199. Tire valve. George H. F. Schrader, New York city.
- 688,219. Combined metal horseshoe and pad. Elmer A. Wilcox, Chicago, assignor to the Chicago Rubber Horseshoe Co.

Design Patent.

- 35,373. Hot water bag. John B. Miller, Chicago.

ISSUED DECEMBER 10, 1901.

- 699,319. Rubber tire. Paul W. Litchfield and Frank R. Chamberlain, Chelsea, Massachusetts.
- 688,350. Substitute for India-rubber or Gutta-percha and process of making same. Mark Sherwin and Hans M. Mathiesen, Cambridge, Massachusetts.
- 688,399. Vehicle wheel. William F. Ellis and Edwin C. Davis, Springfield, Mass., assignors to the Davis Tire Co., same place.
- 688,688. Syringe. Walter H. Pumphrey, New York city, assignor to The Tullar Co., New Haven, Conn.

Design Patent.

- 35,436. Floor tiling. Joseph K. Sierer, New York city.

ISSUED DECEMBER 17, 1901.

- 688,881. Syringe nozzle. Russell Parker, Brooklyn, N. Y., assignor to Parker, Stearns & Sutton, New York city.
- 688,882. Liquid pistol. Russell Parker, Brooklyn, N. Y.
- 688,994. Elastic tire. Thomas Gare, New Brighton, England.
- 689,157. Rubber ball and process of manufacturing same. Hermann G. Berstorff and Ednard A. H. Meyer, Hanover, Germany.
- 689,247. Wheel tire and means for securing it on wheels. Pardon W. Tillinghast, Edgewood, Rhode Island.
- 689,263. Vehicle tire. Earl C. Whitaker, and Frank P. Whitaker, Providence, Rhode Island.
- 689,355. Atomizer. Anton C. Eggers, Brooklyn, N. Y., assignor to Goodyear's India Rubber Glove Manufacturing Co.

ISSUED DECEMBER 24, 1901.

- 689,590. Inflatable roller. Martin Johnson, and Eder B. Marshall, Milwaukee, Wisconsin.
- 689,616. Process of devulcanizing vulcanized India-rubber scrap. George E. Heyl-Dia, Warrington, England.
- 689,622. Compound for stopping punctures in pneumatic tires. Adolph J. Otto and Thomas J. Brennan, Pawtucket, Rhode Island.

Design Patents.

- 35,470. Cushion. Christian William Meinecke, Jersey City, N. J., assignor to Meinecke & Co., New York.
- 5, 484. Rubber horseshoe. Charles W. Bolton, Philadelphia.

Trade Marks.

- 37,521. Rubber packing. Henion & Hubbell, Chicago. Essential feature, the words "Red Jacket," and the representation of the Indian chief, Red Jacket.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

- 21,661. Frederick Josiah Clinch-Jones, Leamington. Pneumatic tire. October 29.
- 21,870. William Shone, 18, Buckingham street, Strand, London. Sealing of inflatable members of pneumatic tires. October 30.
- 21,897. Frederick Westwood, Birmingham. Pneumatic tires. October 31.
- 21,925. Edward Hovendon Barlow and Archibald Francis Waldy, 25, Great College street, Westminster, London. Concentric tire. October 31.
- 21,930. The Self-Sealing Air Chamber Co., Limited, and Alfred Franklin, Birmingham. Improvements in tubes made of India-rubber. October 31.

- 21,950. Louis Ignatius Perry, 23, Southampton buildings, Chancery lane, London. Elastic tires. October 31.
- 21,964. Arthur Brown, 53, Chancery lane, London. Pneumatic tires. October 31.
- 21,998. Herbert Edward Smith, 29, Finsbury pavement, London. Method of repairing pneumatic tires. November 1.
- 22,309. George Edward Heyl-Dia, 6, Lord street, Liverpool. Improvements in flexible adhesive material for repairing pneumatic tires, securing surgical bandages, and the like. November 5.
- 22,344. Robert John Baldrey, Ootacamund, Nilgris, India. Pneumatic rubber cushion for boots and shoes. November 5.
- 22,393. Sidney Williams Dod and Charles Davies, 6, Lord street, Liverpool. Pneumatic tires. November 6.
- 22,351. Sydney Walshe, Nottingham. Pneumatic tires. November 6.
- 22,426. Henry John Poate and William Barber, Clanfield, Horndean, Hants. Outer cover for bicycle tire. November 7.
- 22,506. Frederick John Thomas and Edwin Alfred Penn, Coventry. Puncture saver. November 8.
- 22,744. William Pilleps Thompson, 322, High Holborn, London. Improvements in the manufacture of long India-rubber tubes. [Kolner Akkumulatoren-Werke Gottfried Hagen, Germany.] November 11.
- 22,758. Adolphe Combanair and Jean de la Fresnaye, 22, Southampton buildings, Chancery lane, London. Improved process for the purification of Gutta-percha. November 11.
- 22,819. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Improvements in elastic cushion treads for boots and shoes, crutches and the like. [Charles Freeman Brown, United States.] November 12.
- 22,853. Charles Edward Adolphus Esse, 6, Lord street, Liverpool. Inner tubes of tires. November 12.
- 22,906. Alfred Dales, Manchester. Horseshoe pad. November 13.
- 22,951. Ephraim Ross Steinhardt, Percy Frank Burbridge, and George Bellamy, 22, Southampton buildings, Chancery lane, London. Rubber tires. November 13.
- 23,002. Dennis Daniel Dendy, Horndean, Hampshire. Ventilated pneumatic air pad. November 14.
- 23,119. William Frederick Williams, 53, Chancery lane, London. Means of securing elastic tires. November 15.
- 23,133. George Henry Hickson, 18, Buckingham street, Strand, London. Revolvable heel pads. November 15.
- 23,395. Charles Chitty, 40, Palace grove, Bromley, Kent. Improvement in fixing rubber, leather or composition tires to wheels. November 19.
- 23,595. Anne Jane Jackson, Weaverham, Cheshire. Automatic inflator for tires. November 21.
- 23,661. Morgan Leslie Tucker, 322, High Holborn, London. Pneumatic tires. November 21.
- 23,663. Franz Clouth, 6, Lord street, Liverpool. Improvements in methods of attaching resilient tires to wheels. November 21.
- 23,775. Charles Henry Wilkinson, Market place, Huddersfield. Tires for cycles, motor cars, and other vehicles. November 23.

PATENTS GRANTED.—APPLICATIONS OF 1900.

- 12,868. Method of attaching pneumatic tires. Pulbrook, A., and Pulbrook, E. H., 5, Greyhound Road mansions, Hammersmith, London. July 17, 1901.
- 12,951. Outer cover for pneumatic tire. Marks, G. C., 18, Southampton buildings, Chancery lane, London, W. C. [McCaslin, E. W.; tire factory, Chicago, United States.] July 18, 1901.
- 12,966. Rubber tire. Hopkinson, J. E., Para Rubber Mills, West Drayton, Middlesex. July 18, 1901.
- 13,028. Method of attaching tires. Williams, W. F., 17, Great Pulteney street, Golden square, London. July 19, 1901.
- 13,268. Rubber tire. Thompson, W. P., 322, High Holborn, London. [Burrongs, W. E.; Brooklyn, New York, United States.] July 23, 1901.
- 13,393. Pneumatic cushion in connection with soles of boots and shoes. Doherty, J., 34 Old Lodge road, Belfast, Ireland. July 25, 1901.
- 13,419. Furniture legs. Esch, J., 145, Bechum, Westphalia, Germany. July 25, 1901.
- 13,439. Compound felt and rubber fabrics. Bremner, J., and Warry, J. J., Liverpool. July 26, 1901.
- 13,813. Vaginal syringes. Bauer, M., 20 Mittersting, 20, Vienna, Austria. August 1, 1901.
- 13,750. Tiles and tiling. Johnson, G. W., 47, Lincoln's Inn Fields, London. [Furness, F.; No. 711 Locust street, Philadelphia, United States.] July 31, 1901.



RUBBER GOODS

Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means “Carbon” grade—a good article; a double diamond means “Double Diamond” grade—a fine article; a triple diamond means “1846 Para” grade—a splendid article and the best we can make. Our brands on hose, belting, packing

*Belting,
Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,*

and other rubber goods are guarantees of high quality and long service.

Chicago,150 Lake St.
St. Louis,411 No. Third St.
San Francisco, 509 Market St.
Boston,24 Summer St.
Philadelphia, 724 Chestnut St.

*C. I. Packing,
Ruby Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.*

NEW YORK BELTING & PACKING CO. LTD

PIONEERS AND LEADERS—25 PARK PLACE, NEW YORK.

Mention The India Rubber World when you write.

GARDEN HOSE FOR 1902.

Rubber Lined Cotton.

Three, Four, Five
and Seven ply Hose

—ALL COLORS.—

Write for Samples and Prices.

The Mechanical Rubber Co.,

BRANDS : :
WARRANTED 2XL,
ALUMINUM,
HIGH PRESSURE,
OLD GOLD,
SHAMROCK,
HIGH GRADE,
B-4-ANY,
GOOD ENOUGH,
BUCKEYE,
POPULAR,
WETMORE,
COMPETITION,
CLEVELAND,
EUCLID.

Cleveland Seamless
Tube Hose

Means Larger Sales,

No Complaints

For the Jobber.

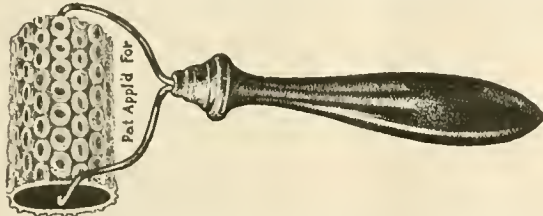
Cleveland, Ohio.

Mention The India Rubber World when you write.

NEW GOODS AND SPECIALTIES IN RUBBER.

BAILEY'S RUBBER MASSAGE ROLLER.

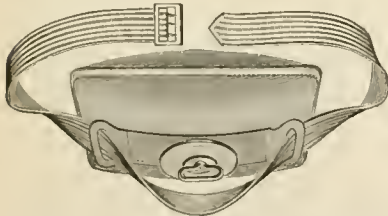
THE cup shaped teeth which, as will appear from the accompanying illustration, form a distinctive feature of this article, are designed to have a suction effect upon the skin, with a view to smoothing out wrinkles, rounding out the muscles, and improving the circulation of the blood.



The roller is so constructed that every portion of the face and neck may be treated perfectly—even to the "crow's feet" in the corners of the eyes. A patent has been applied for. The roller is sold by retailers at 50 cents. [C. J. Bailey & Co., Boston, Massachusetts.]

WILLIAMS'S ADJUSTABLE HOT WATER BOTTLE.

A new and very practical invention, is the type of hot water bottle shown in the accompanying illustration. The very simplicity of the strap device makes the device almost faultless. The flat nozzle and the low stopper—indeed, the whole shape of the bag—make it at once cheap, strong, and exceedingly effective. It is made in sizes from No. 1 to No. 6, either in white or tan rubber. [Davidson Rubber Co., Boston, Massachusetts.]



THE "CRESCENT" HORSESHOE PAD.

THIS combination rubber and leather pad, on which a patent has been allowed, is the invention of William Killion, a horseshoer of long experience. It is referred to as being easy fitting and neat in appearance; it does not sag at the heel or collect sand and gravel. On account of the quality of the material used the "Crescent" pad is guaranteed for durability. It is made also in special light weights for racing use, and both the standard and racing pads are made open or ventilated, as well as in the form illustrated in the cut herewith. [William Killion & Sons, No. 20 Cambria street, Boston.]



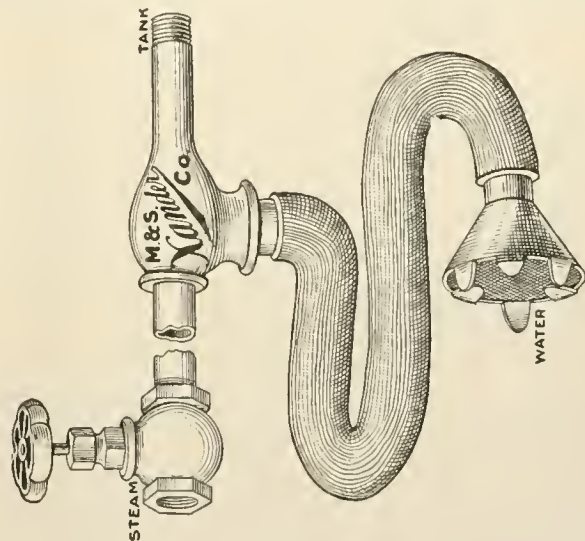
THE GAME OF "PING PONG."

A SPORTING goods concern in New York is stated to have sold \$150,000 worth of "ping pong" or table tennis goods between Thanksgiving Day (in November last) and Christmas, though the game had scarcely been introduced here before that time, and its use is still confined, so far as the United States are concerned, to New York and its vicinity. The game was referred to in THE INDIA RUBBER WORLD of September 1, 1901 [page 361], as having come into vogue in Eng-

land and Germany. The ball—hollow and made of celluloid—is the most important factor in the game. It is propelled by racquets, the same as in tennis, and the game is played indoors, over a table. The newspapers here have now begun to give so much attention to the game that the American public doubtless will soon become acquainted with it.

THE XANDER TANK FILLER.

THE device illustrated here is intended for filling the water tanks of steam vehicles from convenient troughs or streams along the road. About eight feet or more of rubber hose may



be used, which can be coiled when not in use and carried in any convenient place, or on top of the tank. To fill the tank by means of this device, the operator has simply to throw the strainer end of the hose into the water, and open a valve under the seat, when the water is drawn up by the vacuum created by the steam, filling the tank in a few minutes. It is not necessary for the operator to leave his seat. It is a much more convenient means than the use of a bucket. [The Xander Machine and Supply Co., Limited, Reading, Pennsylvania.]

THE BLACK "V" HEEL.

THE wearing of rubber heels now having become so widespread, a new article has been put upon the market, with the designation printed above. The manufacturers, holding that there is as much difference between various makes of rubber heels as there is between shoes, point out three particulars in regard to which they claim excellence. One is with regard to the durability of the compound used in this heel; another is that the heel, owing to the character of the compound and the construction, tend to prevent slipping even after the corrugated surface has worn away; and the third is that the material used admits of the heel taking a polish that will make it resemble the gloss on the shoe. [North American Rubber Co., New York.]



EXPORTS OF AMERICAN RUBBER GOODS.

DURING the first eleven months of 1901, compared with the two years preceding, as officially reported by the customs service:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
January-June	\$300,095	\$200,267	\$920,334	\$1,420,696
July.	51,554	91,089	153,488	296,131
August.	47,268	102,951	129,264	279,483
September.	48,736	173,090	118,029	339,855
October.	54,611	165,932	149,049	369,592
November.	45,041	107,642	132,871	285,554
December.	60,640	131,685	140,835	333,160
Total, 1901	\$608,116	\$974,018	\$1,743,882	\$3,326,016
Same, 1900	528,382	721,085	1,559,049	2,808,516
Same, 1899	(a) 279,069	327,139	1,475,380	2,081,588

(a) Included in "All Other" prior to July 1, 1899. [Exports to Hawaii and Porto Rico not included.]

Exports of rubber boots and shoes amounted to 2,408,776 pairs as against 1,399,285 pairs in 1900 and 621,069 pairs in 1899.

Exports of reclaimed rubber during the year 1901 amounted in value to \$355,682, as against \$503,282 in 1900 and \$431,136 in 1899.

RUBBER GOODS IMPORTS IN THE PHILIPPINES.

VALUES officially reported for the fiscal year ended June 30, 1901, by the United States government:

FROM—	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
United States.	\$1,410	\$1,898	\$18,172	\$21,480
United Kingdom	2,201	1,071	18,200	21,472
Germany	329	412	13,230	13,971
France.	201	2,477	2,202	4,880
Spain. . . . .	...	58	1,138	1,196
Belgium. . . . .	...	294	651	945
Italy. . . . .	...	...	1,237	1,237
Switzerland. . . . .	...	...	1,044	1,044
Hongkong.	27	437	1,740	2,204
China. . . . .	...	817	466	1,283
Japan. . . . .	...	6	14	20
British East Indies.	191	1,614	262	2,067
Siam. . . . .	...	...	30	30
Total.	\$4,359	\$9,084	\$58,386	\$71,829

Exports of rubber goods from the United States to the Philippines during the preceding ten fiscal years, in value:

1891.	\$—	1895.	\$1,329	1899.	\$—
1892.	—	1896.	333	1900.	4,936
1893.	—	1897.	—		
1894.	125	1898.	—	Total.	\$6,723

BRITISH EXPORTS OF RUBBER GOODS.

OFFICIAL returns for the past three calendar years:

	1899.	1900.	1901.
Boots and shoes			£ 176,397
Unenumerated.			1,086,238
Total.	£1,388,805	£1,423,464	£1,263,238

The number of pairs of rubber footwear exported was 1,656,912. The average price was a trifle more than 2s. 1½d., average, or 51.8 cents, American money, at par of exchange.

OFFICIAL RETURN OF CANADIAN IMPORTS.

OF crude India-rubber and Gutta-percha (free) and manufactures thereof (dutiable) during three months—July 1 to September 30, for two fiscal years:

	DUTIABLE.		FREE.	
	1900.	1901.	1900.	1901.
Great Britain.	\$36,920	\$ 56,068	\$ 54	\$ 1,518
United States.	97,060	130,083	623,413	378,286
Other countries.	4,648	5,216	2,973	3,926
Total.	\$138,628	\$191,367	\$626,442	\$383,730

NEW TRADE PUBLICATIONS.

THE current trade publications of chief interest just now happen to be the new lists of the rubber shoe companies. Not only is the date unusual for the appearance of these lists, but the revision of discounts is a matter that concerns every jobber and retailer.==As usual, a good sized bundle of catalogues comes from the UNITED STATES RUBBER CO., devoted respectively to the products of the various constituent companies. There are separate catalogues for the *American Rubber Co.*, including the "Pará" brands; *L. Candee & Co.*, with the "Federal" list; *Goodyear's Metallic Rubber Shoe Co.*, listing the "Wales-Goodyear" and "Connecticut" goods; and the *Woonsocket Rubber Co.*, including the "Rhode Island" brands. There is a separate list for the "Jersey" goods and a combined one of the "Meyer" and "Jersey" brands; also of the "Colonial" brand; together with the customary net price sheets and the like. These catalogues were prepared under the supervision of Mr. John P. Lyons, the United States company's advertising manager, who has been able, in a marked degree, to give each catalogue a distinctive appearance, and at the same time to avoid copying in any way the designs of preceding catalogues.==The 1902 catalogue of the BOSTON RUBBER SHOE CO., as usual, is distributed direct from the offices of that company, and is accompanied by the larger jobbers' list, both publications preserving the same general character which they have borne so long.==THE LYCOMING RUBBER CO. (Williamsport, Pennsylvania), also send their Annual Catalogue of Boots and Shoes from their local office.

WILLIAM MORSE & CO. (New York) have had an edition of the American Rubber Co.'s catalogue printed, with the addition of a list of other rubber goods kept in stock by this important jobbing house. [3½"×6½". 72 pages.]

APSLEY RUBBER CO. (Hudson, Massachusetts) have issued, under date of January 1, 1902, their annual catalogue and price list of Rubber Boots and Shoes, handsomely got up, and covering a full line of styles. [3¾"×6". 64 pages.]

WM. F. MAYO & CO. (Boston) issue their Catalogue No. 7 of factory damaged and out-of-style rubber footwear, listing about 25,000 cases from the various factories of the United States Rubber Co. Nearly 700 lots are offered, with net prices affixed, at a reduction of 10 per cent. or more from manufacturers' prices.==The unsold stocks of the Byfield Rubber Co. (Bristol, R. I.) have been acquired by the Messrs. Mayo, and are listed in a supplement to Catalogue No. 7.

WASHINGTON RUBBER CO., INC. (Seattle and Tacoma, Washington), selling agents for the Pacific Coast Rubber Co., issue an illustrated price list of Mechanical Rubber Goods. The company make a specialty of the Boston Belting Co.'s rubber belting, packing and hose. [4½"×7½". 52 pages.]==Also, an illustrated price list of Druggists' Sundries, embracing a wide range of goods, selected from the production of the leading manufacturers. [5"×7¾". 96 pages.]

GUSTAVE KUSH (No. 60 Beekman street, New York), issues a priced catalogue of Mechanical Rubber Goods, making a specialty of rubber blankets for printers' and lithographers' use. [3"×5¾". 16 pages.]==He sends out also a handsome vest pocket memorandum book and calendar for 1902.

BOSTON WOVEN IROSE AND RUBBER CO. (Cambridgeport, Mass.) issue a new illustrated catalogue of their products, including not only belting, hose, and other mechanical goods, but also tires, mold work, and various "sundries." The catalogue quotes prices, and is well illustrated and printed. [6"×9". 107 pages.]

NEWS OF THE AMERICAN RUBBER TRADE.

THE B. F. GOODRICH CO. (AKRON RUBBER WORKS).

AT the annual meeting on January 8, the resignation of H. C. Corson, of which notice had been given several months in advance, became effective. The vacancy was filled by the election of Bertram G. Work, general superintendent. The list of directors and officers now stands:

Directors.—George T. Perkins, George W. Crouse, F. H. Mason, Richard P. Marvin, Charles C. Goodrich, W. A. Folger, B. G. Work.

President.—Colonel George T. Perkins.

Vice-President.—Bertram G. Work.

Second Vice-President.—Hon. George W. Crouse.

Secretary.—Richard P. Marvin.

Treasurer.—W. A. Folger.

Assistant Secretary.—C. C. Goodrich.

Assistant Treasurer.—W. A. Means.

General Superintendent.—E. C. Shaw.

Assistant General Superintendent.—C. C. Goodrich.

Superintendent of Works.—F. H. Mason.

Mr. Corson retains an investment in the factory, and is expected to keep in touch with its affairs. During the month, however, he sailed for Europe with his family to remain several months.—Mr. Work has long been acknowledged to be one of the strongest and most capable men in the rubber industry. He has in a marked degree genuine executive ability, and a faculty for systematizing that is marvelous. After his graduation from Harvard University he entered the factory of The B. F. Goodrich Co., where his father had been superintendent, and, beginning at the bottom, worked up to the position of general superintendent by sheer ability. He keeps in close touch with rubber matters the world over, to the end that the Goodrich company, to which he is intensely loyal, may be not only abreast, but ahead of the times.

U. S. RUBBER RECLAIMING WORKS.

THIS company, which, since June 28, 1900, had been operated as a corporation under the laws of New Jersey with \$500,000 capital, on December 18, 1901, filed articles of incorporation with the secretary of state of New York, the capital remaining the same. The reason for making this a New York corporation is that, after the completion of the new plant at Buffalo, the bulk of the company's manufacture will be done in this state, instead of outside, as heretofore—Work on the remodeling of the building acquired for the company's Buffalo plant has made very satisfactory progress to date. A building permit recently obtained from the city provided for additions to the building to cost \$10,000.—The vacancy in the office of secretary of the company caused by the death of Mr. Max T. Rosen, on October 24 last, has been filled by the election to that office of Walter T. Rosen, a son of the former, and a member of the banking house of Ladenberg, Thalman & Co., (New York).

RUBBER SOLED LEATHER SHOE CO.

THIS company, whose factory is at South Framingham, Mass. has been reorganized, with Fayette W. Wheeler president and general manager, and G. F. Butterfield, treasurer. A building has been acquired, 45×60 feet, with seven acres of land. An extra boiler and 150 H P engine have been put in, and electric lighting apparatus. The company manufactures leather shoes to the soles of which a rubber sole and heel are attached under patents issued to George F. Butterfield. C. O. Benton has charge of the rubber department. It is planned to manufacture the leather work, also, instead of depending upon shoe factories for the same. The company now have an office at

No. 73 Tremont street, Boston. They will open a retail store at No. 137 Summer street.

AMERICAN CYCLE MANUFACTURING CO.

THE incorporation of this company, to control the bicycle department of the American Bicycle Co., was noted in the last INDIA RUBBER WORLD. On January 13 directors were chosen as follows: Joseph E. Bromley, R. Lindsay Coleman, Albert A. Pope, Henry A. Lozier, and George Pope. Mr. Bromley has been elected president; J. C. Mattack vice-president; and J. A. McGregor treasurer. The offices of the company have been removed from New York to the "Crescent" wheel factory in Chicago, for the reason that four of the eight factories operated by the company are located in the latter city.

WATERPROOFING TEXTILES WITHOUT RUBBER.

JUDGE C. M. WILLARD, of Rutland, Vermont, writes to THE INDIA RUBBER WORLD that he acquired at one time a patent process for waterproofing textiles without rubber, upon which he made some improvements that are kept secret. Being 81 years of age, however, he does not feel disposed to engage personally in exploiting the business. Hence he has sold the rights for the United States, outside of New England, to parties in Chicago who will erect a large plant there. The New England rights have been disposed of on a royalty basis to Clark & Laventure, of Rutland, who will continue and enlarge the small business started in that town by Judge Willard as the New England Waterproof Co.

PICHER LEAD CO.

THE Picher Lead Co. announces that, beginning on January 1, 1902, it will offer its products to the New England rubber trade direct. The Picher products have heretofore been distributed throughout the New England territory by The Chadwick Lead Works, and their successors, the Chadwick Boston Lead Co. At the office of the company in New York, it was stated that the new arrangement was only in the natural course of events, and in line with the modern tendencies toward centralization of control.

WESTERN ASSOCIATION OF SHOE JOBBERS.

THE fourth annual business meeting at Chicago, on January 8, was well attended, as usual. Orlando C. Smith, president of the Smith-Wallace Shoe Co. (Chicago), was elected president of the association for the fourth term, and S. W. Campbell, No. 243 Franklin street, Chicago, was elected secretary. The list of vice presidents represents ten states. The discussions related to a wide range of topics, not the least in interest being that of maintaining prices on rubber footwear. The fourth annual banquet was held in the evening, at the Grand Pacific Hotel, with President Smith at the head of the table; Erskine M. Phelps, toastmaster, at his right; and the Hon. L. D. Apsley, of the Apsley Rubber Co., at his left. The first toast, drank in silence, was to the late Charles L. Johnson, of the United States Rubber Co., who spoke at the banquet last year. Mr. Apsley was among the speakers. Among others who referred to the rubber goods trade was A. H. Andrews, of Columbus, Ohio, who said: "I do not understand why the shoe jobbers who are selling rubbers should have any hesitancy in going out and demanding a fair price or the price the rubber company has made to us on goods the coming season. There is no question but what we handle the best line of rubbers made in the world. America is exporting rubbers now to all

countries, the best fitting, the most sightly, and more serviceable than any goods made, and at a price that we can all buy and sell and make a profit at. Why should we give it away?"

UNITED STATES RUBBER CO.

A REPORT that the general offices of this company would be removed from New York to Boston was denied by President Samuel P. Colt in a newspaper interview on January 7. The company will, however, consolidate their offices in Boston, when an addition has been completed to the Converse building, in Milk street, in which the offices of the Boston Rubber Shoe Co. are located. The Boston Rubber Shoe Co.'s Chicago office, in charge of W. C. Hecox, manager, is now located at No. 244 Monroe street, with the Chicago branch of the United States Rubber Co.—C. B. Allen, formerly in charge of the latter office, having returned to Boston, has been succeeded in Chicago by H. G. Armstrong, for some time past representing the United States Rubber Co. in Baltimore.—Recent transactions in the company's shares on the New York Stock Exchange have been as follows:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Dec. 21	3,950	20 ¹ / ₈	18 ¹ / ₂	1,500	73	68
Week ending Dec. 28	3,733	19 ¹ / ₂	18	364	68	67 ¹ / ₂
Week ending Jan. 5	2,900	20 ³ / ₄	18 ¹ / ₄	1,510	70 ¹ / ₂	68 ³ / ₄
Week ending Jan. 12	700	19	18 ¹ / ₄	075	69 ¹ / ₈	67
Week ending Jan. 19	1,900	18 ³ / ₄	17 ³ / ₄	300	68 ³ / ₄	67 ¹ / ₂
Week ending Jan. 26	240	14 ¹ / ₂	14	100	50 ⁷ / ₈	50 ⁷ / ₈

SUMMARY OF SHARE TRADING IN 1901.

CLASS.	Sales.	First.	High.	Low.	Last.
Common shares.....	318,038	29 ³ / ₈	34	12 ¹ / ₂	14
Preferred shares.....	132,278	79 ¹ / ₂	85	47	59 ³ / ₈

During the past month many inquiries have been made as to the effect upon the United States Rubber Co. of certain failures in the rubber trade. The statement has been authorized at the company's office that the business of the company was affected in no sense, except that the opportunity was availed of to purchase an important quantity of crude rubber at a concession from prevailing prices. This was regarded as a benefit rather than an injury.

RUBBER SHOE SOLES FOR CHINA.

ACCORDING to the Akron (Ohio) Democrat a leading factory in that town has received a good order for rubber soles for shipment to China. In THE INDIA RUBBER WORLD for July 1, 1900 [page 279], Mr. C. K. Ogiwara, of the Oriental Rubber Manufacturing Co. (Tokio, Japan), suggested that, while the sale of rubber shoes was not likely to increase greatly in China, ordinary Chinese shoes, made in native shops with rubber soles, might meet a large demand, and his company, it was understood, meant to introduce rubber soles to that trade.

INDEPENDENT RUBBER CO. (AKRON, OHIO.)

THIS new enterprise was mentioned in the last INDIA RUBBER WORLD [page 120], since which time Messrs. Stark, Linn, and Dildine have sold their interest to William Dunn and Elmer Lundgreen, who will continue the business, reorganizing it under the name of the Superior Rubber Co.

BRASS GOODS FOR HOSE.

H. B. SHERMAN MANUFACTURING CO. (Battle Creek, Michigan) have purchased the Acme Brass Works (Elkhart, Indiana), and are moving same to Battle Creek, where it will be consolidated with their present plant. The line of hose brass goods formerly made by the Acme Brass Co. was up to date, all of the patterns being new, as they had only operated the plant for a trifle over eighteen months, and consists of a full

line of cast hose couplings in both water and steam styles, automatic couplings, underwriters' pipes, hosepipes in all sizes and styles, sprinklers, hose caps, nipples, reducers, etc. The above line added to the present high grade specialties turned out by H. B. Sherman Manufacturing Co. will give them the most complete line of hose brass goods in the country.

HAMILTON RUBBER MANUFACTURING CO.

AT the annual meeting, at Trenton, New Jersey, on January 16, the officers were reelected, as follows: Edward D. Cook, president; William H. Servis, vice president; Charles Howell Cook, treasurer; William L. Blodgett, secretary. A dividend was declared on the year's business, amount not stated.

WOONSOCKET (R. I.) RUBBER CO.

NOTICES were posted at the "Alice" mill on January 16, announcing a shut-down beginning Monday, January 27, with no intimation when work will be resumed. The mill employs about 1000 hands when running full, but for some time past had been running with a reduced force.—A later intimation is that the shutdown is to last until March 3. President Samuel P. Colt is quoted in a Woonsocket newspaper as saying that the company's boot mill, at Millville, is not to be closed.

BOSTON RUBBER SHOE CO.

ON January 7, Colonel Frank L. Locke became superintendent of the two factories of this company, with Walter E. Piper as assistant. Colonel Locke had long been assistant superintendent of factory No. 1, and Mr. Piper had been employed in a similar capacity at factory No. 2.—On January 13 the factories began running 9 hours a day instead of 10 hours.—The factories were closed from Monday, January 27 to the end of the week.

RUBBER GOODS MANUFACTURING CO.

THE third annual meeting of stockholders is due to be held at the company's registered office, in Jersey City, on February 10. The company is reported to have done a satisfactory amount of business during 1901, with net earnings of \$1,800,000. The net sales during 1900, according to a statement made to the New York Commercial by William A. Towner, an officer of the company, amounted to \$13,956,561.—Mr. Towner also stated that a few notes held by the Crude Rubber Co. at the time when the latter went into the hands of a receiver, were made by constituent companies of the Rubber Goods Manufacturing Co., and these would be paid when due. The Rubber Goods company would be in no sense affected by the Crude Rubber failure.—Rumors are afloat again regarding a movement to bring about a further consolidation of the mechanical rubber industry, with the Rubber Goods Manufacturing Co. as the basis. One report attributes the new activity in this direction to the holders of the shares taken over from Charles R. Flint on his retirement from the company.—Transactions in Rubber Goods shares on the New York Stock Exchange have been as follows:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Dec. 21	4,510	14	12 ¹ / ₂	735	49 ¹ / ₄	48 ¹ / ₄
Week ending Dec. 28	455	13 ³ / ₄	13 ¹ / ₂	....	....	....
Week ending Jan. 5	1,500	14 ¹ / ₂	13 ¹ / ₄	675	50 ⁷ / ₈	49 ¹ / ₈
Week ending Jan. 12	535	14 ¹ / ₈	14	400	51	50 ⁵ / ₈
Week ending Jan. 19	840	14 ¹ / ₂	14 ¹ / ₂	495	50 ⁵ / ₈	50 ¹ / ₈
Week ending Jan. 26	—	—	—	100	68 ¹ / ₂	68 ¹ / ₂

SUMMARY OF SHARE TRADING IN 1901.

CLASS.	Sales.	First.	High.	Low.	Last.
Common ...	172,631	32 ¹ / ₈	38 ¹ / ₄	18	20 ³ / ₄
Preferred....	18,541	87 ⁷ / ₈	90	65	70 ¹ / ₂

THE ATLANTIC RUBBER SHOE CO.

At a meeting of the incorporators held on January 3 the following directors were chosen : J. O. Stokes, W. J. B. Stokes, F. N. White, F. C. Lowthorp, H. J. Doughty, Henry M. Rogers, and Benjamin J. Hotchkiss. The directors elected officers as follows ;

- President—JOSEPH OLIVER STOKES.
- Vice President—FRANK N. WHITE.
- Treasurer—WILLIAM J. B. STOKES.
- Secretary—FRANCIS C. LOWTHORP.
- Manager—HENRY J. DOUGHTY.

Joseph O. Stokes is treasurer and general manager of the Home Rubber Co. and president of the Joseph Stokes Rubber Co. and the Trenton Rubber Manufacturing Co., all of Trenton, New Jersey. W. J. B. Stokes, his brother, is president of the Home Rubber Co. and treasurer of the other companies named, in addition to being the treasurer of the city of Trenton. Mr. Doughty has been at work for several years in the development of important inventions in connection with the rubber industry, and in their exploitation has had associated with him Mr. White. One of these inventions is the basis of the Rubber Machinery Co., Limited, which has been engaged successfully in the introduction of machinery on a new principle in important branches of the mechanical industry. Mr. Lowthorp, the other member of the official board, is an attorney of Trenton.

The Atlantic Rubber Shoe Co. have secured a plot of ground, embracing some twenty-three acres in Trenton, on the main line of the Pennsylvania railroad. The land is in the form of a triangle, one side being, as before stated, on the main line of the railroad, and another side being bounded by the Coldport branch of that road, and the third by the Assampink creek. This arrangement will allow for two railroad sidings, one of which will bring in the raw material and factory supplies, while the other will take away the manufactured goods. The company have further rented a building in Providence, Rhode Island, which is being rapidly fitted up as a machine shop for the manufacture of molds. They have also given out a contract for the building of 500 of the shoe machines. It is interesting to note that some of these machines are to be for the manufacture of lumbermen's overs and boots, and for which a number of additional patents will soon be issued.

A prospectus has been issued, inviting subscriptions to \$2,500,000 in 6 per cent. cumulative preferred stock, and \$7,500,000 non assessable common stock, at the company's offices, No. 80 Reade street, New York, and in the Broad Street National Bank building, Trenton.

The prospectus presents the following comparison of items bearing upon the cost to manufacture 10,000 pairs of rubber shoes daily, by the present processes, and with the use of the new machines :

	Present Process.	New Process.
Floor space required	130,000 sq ft.	45,000 sq. ft.
Cost of building, \$1 sq. ft.	\$130,000	\$45,000
Washers, mixers, calenders.	\$30,000	\$18,000
Engines	700 H. P.	400 H. P.
Wooden lasts	\$30,000	none.
Cost maintaining lasts 1 year	\$10,000	none.
Cost presses and molds.	none.	\$20,000
Weekly pay roll.	\$8,500	\$3,200

IMPROVEMENTS AT LA CROSSE.

THE La Crosse Rubber Mills Co. (La Crosse, Wisconsin) have just added a large three roll calender of Birmingham make for the manufacture of surface clothing, and indeed for a variety of calendered surface goods. Heretofore all of their work has been done on spreaders, of which they have a large battery. The capital stock of the company has also been increased from

\$50,000 to \$100,000. Further improvements at the mills are the completion of a great cistern for surplus water, with a capacity of 80,000 gallons. They have also erected a 65 foot tower, on top of which is a tank holding 35,000 gallons. Added to this is the installation of a fire pump which will throw 1000 gallons a minute. This, together with the large well and with the Niagara sprinklers, gives the La Crosse factory one of the best equipments for fire protection possible. As the mill piping is independent of the sprinkler work, it will be seen that the factory really has its own complete system of water works. The general manager, George S. Andrus, who was recently in the East, predicts that their business will be larger than ever during 1902, and that the grades of mackintoshes called for throughout the country will be much higher than in the past.

EMPIRE RUBBER MANUFACTURING CO.

At the annual meeting, at Trenton, New Jersey, on January 15, the officers of this company were re-elected, as follows : William H. Skirm, president ; George R. Cook, treasurer ; W. H. Skirm, Jr., secretary.

THE HALL SECTIONAL TIRE.

THE Consolidated Rubber Tire Co. have purchased the full rights to manufacture the sectional rubber carriage tire invented by Frank E. Hall, and are now equipped to make all sizes from 2½ inches wide to 8 inches. Some of the larger sizes of tire sections are veritable giants, weighing 12 pounds apiece, and designed to go under 15 ton vehicles. It is interesting to note that during the two years in which these tires have been used, not one of them has gone out of commission.

WILLIAM WRIGHT & CO. (LIVERPOOL AND NEW YORK.)

THE dissolution is announced of this partnership, doing business as brokers at No. 176 Broadway, New York, and No. 620 Atlantic avenue, Boston. Mr. Leonard Y. Croft retires, and the business will be continued at the same places, under the same firm style, by the remaining partners, Harry Graham Wright and William F. Methuen. The American business will be carried on by Mr. A. Heathcock, who has been in the employment of the firm for some years past.

RUBBER PLANTING ITEMS.

DR. A. L. HOUSE, for five years past a practicing physician at Watbury, Connecticut, has gone to Mexico, to engage in rubber and coffee planting. He will also act as physician and surgeon for the plantations of the Mexican Coffee and Rubber Co., the Ubero Plantation Co. of Boston, and the Isthmus Rubber Co.

=Moses Thatcher, of Salt Lake City, Utah, and a party of Chicago business men are visiting a plantation in the state of Oaxaca, Mexico, with a view to acquiring it for the cultivation of India-rubber and sugar.

NEW INCORPORATIONS.

THE Standard Rubber Shoe Co. (Chicago), December 23, under Illinois laws, to deal in rubber goods ; capital \$25,000 Incorporators : Walde F. Tobey, Gail Dray, George C. Madison. Some details regarding this company were published last month [page 122.]

=T. S. Buck Manufacturing Co., December 22, under New Jersey laws, to continue the rubber stamp manufacturing business of T. S. Buck, New York ; capital \$100,000. Incorporators : John H. Young, George W. Landon, Frank L. Buck.

=The Diamond Rubber Co. (Akron, Ohio), as a West Virginia corporation, with \$1,500,000 capital, have qualified to do business in Ohio, paying to the secretary of state fees amounting to \$1500.

=The Methuen Rubber Co., January 9, under Maine laws,

to manufacture and deal in rubber goods; capital, \$50,000. Richard P. Osgood, president, and John D. Osgood, treasurer, both of Methuen, Massachusetts; Benjamin G. Ward, clerk, of Portland, Maine.

TRADE NEWS NOTES.

W. G. BROWN, after a connection of some ten years with the Cleveland Rubber Works, as their Cincinnati store manager, resigned that position lately and accepted a proposition from the Whitman & Barnes Manufacturing Co., with headquarters at Akron, Ohio, to take charge of entire sales of their rubber department. He left Cincinnati on January 1 to enter into the new arrangement.

=The annual meeting of stockholders of the New York Rubber Co. for the election of trustees and inspectors of election for the coming year, was held at the company's offices in New York on January 28.

=The Hartford Rubber Works Co. have ceased to market the tires produced by The India Rubber Co. (Akron, Ohio), which company will hereafter market their own tires, together with those of the New Brunswick Tire Co.

=Frank B. Rickaby, who for nearly a year had represented the crude rubber firm of Reimers & Co. at Akron, Ohio, has resigned, to take a position with the Diamond Rubber Co. as a salesman for their reclaimed rubber. It is understood that Reimers & Co. have closed their Akron office.

=One of the largest rubber factories in the country has given an order for the rubber vacuum drying chambers advertised in THE INDIA RUBBER WORLD by Alex. P. Mende (New York), after having sent an expert to Europe to examine the drying apparatus in use there. The estimation in which this drying system is held in many other industries is shown by the duplicate orders received by Mr. Mende from different works.

=Hardman Rubber Co. (Belleville, New Jersey) distributed to their customers a printed Christmas greeting, accompanied by an attractive little souvenir, in the shape of a miniature rubber water bottle, illustrating some newly patented features, packed in a diminutive traveling bag. The whole was manufactured on the Hardman premises, including the box and the printing, indicating that their establishment has become a very comprehensive one.

=The Cable Rubber Co. (Jamaica Plain, Mass.) are making another addition to their factory.

=It is rumored that the Preston woven tire, which has for some time been manufactured in Everett, Mass., will soon be made in a larger factory in Reading, Mass.

=A new hospital sheeting for which much is claimed is made of a fine quality of cambric coated with flexible cellulose. It is soon to be put on the market in large quantities.

=W. B. Kaiser, heretofore with the Monarch Rubber Co. (St. Louis), has become manager of the rubber department of the Giesecke-D'Oench-Hays Shoe Co., of the same city.

=G. W. Stadleman, lately with Morgan & Wright (Chicago), has become manager of sales in the solid tire department of the Goodyear Tire and Rubber Co. (Akron, Ohio), succeeding Joseph A. Burrows, who resigned on account of failing health.

=A complete outfit for manufacturing and vulcanizing rubber stamps, shipped lately by The Superior Rubber Type Co. (Chicago) to Honolulu, is said to have been the first steam vulcanizing plant ever shipped to that port.

=Henry J. Preston, an architect who has planned some large rubber factory buildings in New England, has removed his offices from No. 104 Water street to No. 8 Oliver street, Boston.

=The Sterling Rubber Co.—J. Percy Whipple, proprietor (Boston), report a very satisfactory trade during the past year

and a quarter, with a marked increase in their druggists' sundries and rubber clothing departments. They have been particularly successful with the "Sterling" infant's rubber bath tub.

=Twelve neat booklets, one for each month, a page for every day, is what the Hood Rubber Co. are sending to their friends as a remembrance, not of the *new* year, but of the whole of 1902. Most acceptable, exceedingly useful.

=F. C. Harmstad, who had been manager of the New York branch house of the S. S. White Dental Manufacturing Co. (Philadelphia) since 1881, and who entered the service of the late Dr. S. S. White nearly forty years ago, retired at the first of the year, and was succeeded by Charles Kerby, who has been connected with the Philadelphia house for twenty years. The White company, as dealers in dental supplies, have long marketed dental rubber in large quantities, and latterly have produced it at their rubber plant at Princes Bay, Staten Island, New York.

=The Kokomo Rubber Co. (Kokomo, Indiana) have taken out a new license to manufacture single tube tires under the Tillinghast patent, and the injunction proceedings brought against their Boston representative by the Single Tube Automobile and Bicycle Tire Co. will be brought to a close. The Kokomo company had declined to apply for a new license, claiming that in the past all the licensees had not respected the agreement as to prices, but their recent action indicates that a satisfactory understanding has been arrived at in this regard.

=The Brooklyn *Eagle* hears that the old rubber factory at Setauket, Long Island, is to be reopened, for the manufacture of bicycle tires.

=The Boston Rubber Shoe Co. have purchased two beds in the Malden hospital for the benefit of their employes who may be in need of the same.

=James B. Olson has been appointed manager of sales for the India Rubber and Gutta Percha Insulating Co. (New York), to succeed the late James W. Godfrey, whose assistant Mr. Olsod had been for many years.

=The National India Rubber factory, at Bristol, R. I., was reported lately to be very busy in the tennis shoe and miscellaneous departments.

=A fire on January 20 damaged the rubber goods factory of J. S. & G. F. Simpson, No. 28 Rodney street, Brooklyn, New York, to the extent of \$2000.

=The Brockton (Mass.) Rubber Scrap Co., whose intended removal was mentioned in THE INDIA RUBBER WORLD for January, are still at their old location, while looking for more satisfactory accommodations.

=The annual meeting of stockholders of the American Hard Rubber Co. will be held at the offices of the company, Nos. 9 13 Mercer street, New York, on Tuesday, February 11, at 3 P. M.

=Charles A. Coe & Co., jobbers in rubber footwear in Boston, making a specialty of the "American" lines, have been succeeded by the New England Rubber Shoe Co., a corporation, with Charles W. Barnes, of the American Rubber Co., as president, and George S. Miller, lately of the United States Rubber Co.'s New York offices, manager. Mr. Coe, after having devoted thirty years to shoes and rubbers, has retired, and formed a new firm—Coe, Smith & Co., No. 158 Summer street, Boston, to engage in the sale of a new rubber vehicle tire and other specialties.

=Harry P. Coffin, who has been with Morgan & Wright (Chicago) for a number of years has severed his connection with that firm and accepted the position as manager of the eastern branch of the Calumet Tire Rubber Co. (Chicago), located on Broadway, New York city.

=The Kelly-Springfield Rubber Tire Co. (Davenport, Iowa), formerly licensees of the Consolidated Rubber Tire Co., and later operating independently and marketing tires in disregard of the Grant patent, have discontinued business.

=It is stated that at a recent meeting of the executive committee of the United States Rubber Co., figures were shown, estimating the volume of sales for the nine months ending December 31 at nearly 25 per cent. more than for the same period of 1900—the increased trading more than offsetting the lower prices which had prevailed since April 1 last.

PERSONAL MENTION.

COLONEL SAMUEL P. COLT, president of the United States Rubber Co., is named among the proposed directors of the Trust Co. of the Republic, now being organized in New York, with \$1,000,000 capital and \$500,000 surplus.

=Mr. Theodore E. Studley, of the Goodyear Vulcanite Co., has been elected one of the governors of the Arkwright Club, one of the leading luncheon clubs down town in New York.

=Mr. Andrew Carnegie is likely to win the regard of many rubber workers and their families, by his offer of \$70,000 to the rubber manufacturing town of Akron, Ohio, for a public library building. The town has voted \$7000 a year for library maintenance, which is one of the conditions of the gift, besides providing a location.

=Prominent rubber men who are now on their way across the Atlantic to take the famous Mediterranean trip are George F. Hodgman of New York, and H. C. Corson of Akron. Both of these gentlemen were to be accompanied by their wives, and be gone some months, but Mrs. Corson was not able to go, on account of her health.

=The prudential committee of the First Baptist church of Akron, Ohio, in which Mr. Corson was an active worker, gave a testimonial dinner on the evening of January 14, on the occasion of his leaving Akron. Mr. Corson spoke at the dinner on the subject of success in life, saying that willingness to work and to respond quickly to every call of duty was the first factor in winning success.

=Recent visitors to Boston from Canada were S. H. C. Miner, of the Granby Rubber Co., and J. J. McGill, of the Canadian Rubber Co. of Montreal.

=The Editor of THE INDIA RUBBER WORLD is in receipt of a beautiful New Year's card from Dr. Heinrich Traun, of Hamburg,—a pleasant reminder of one of Germany's foremost rubber manufacturers.

=Mr. William A. De Long, after devoting most of his life to the crude rubber trade, has joined the ranks of the reformers. That is, he has accepted a position under the new city administration in New York—that of deputy commissioner of the department of water supply, gas, and electricity, for the borough of Manhattan—the head of which office, J. Hampden Dougherty, is an old personal friend of Mr. De Long. In 1855 Mr. De Long's business career began, in the West Indian house of Josiah Jex, then importing India-rubber in New York. Later he visited the rubber regions of Central America, and then formed the house of William Jex & Co. (New York), which went into litigation in 1886. This was succeeded by De De Long, Mayer & Co., importers. In 1889 was organized the rubber brokerage house of De Long, Betts & Co., on the dissolution of which Mr. De Long became connected with the New York Commercial Co., from which he retired in 1900.

REPUBLIC RUBBER CO. (YOUNGSTOWN, OHIO.)

THE plant of this new company, organized last summer as the Mahoning Rubber Manufacturing Co., has been put in operation. A view of the buildings is given in the company's

advertisement, in another part of this paper.—=At the annual meeting at Youngstown, January 21, the following directors were chosen: Henry K. Wick, John C. Wick, John Tod, C. H. Booth, A. E. Adams, and M. I. Arms. The directors then elected H. K. Wick, president; C. H. Booth, vice president, and John Tod, secretary and treasurer; and re-appointed J. Edwin Davis acting manager and John S. McClurg, superintendent.—=The New York branch, in charge of Willis A. Darling, manager, has been established at No. 47 Warren street.

RUBBER SHOE PRICES ADVANCED.

THE United States Rubber Co. announced a revision of lists and discounts on January 1, and corresponding changes have been made by most of the independent rubber footwear companies. The changes amount practically to an average advance of 8 per cent. over last year's schedule, or about 5 per cent. if the estimated volume of business in each line be taken as a basis of comparison. The new discounts to retailers are—

First quality (except Woonsocket and Meyer).....	35@10@3
Woonsocket and Meyer.....	35@10@5@3
Second quality (except Rhode Island).....	35@10@10@3
Rhode Island.....	35@10@10@5@3
Colonial brand.....	50@10@3

Boots have been advanced in list price from 25 to 60 cents per pair. Shoes have in some cases been advanced somewhat, the smallest raise being made on lines having the largest sale. The following figures show the net cost to the retailer of short boots, listed at \$4.20 formerly, and now at \$4.50, under the various discounts in force since 1900:

April 1, 1900.....	\$2.99	February 1, 1901.....	\$2.46
November 1, 1900.....	3.15	April 1, 1901.....	2.33
January 3, 1901.....	2.99	January 1, 1902.....	2.50

In addition to the advance in prices—which is announced to be in effect until December 1, 1902—the companies are in a position to profit from the decline in crude rubber prices, which are treated in detail in other pages of this issue.

THE DEMAND LARGE FOR OILCLOTH.

IN view of the declared intention of the new combination in the oilcloth industry in the United States to go into the export trade, the extent of the exports of British oilcloth and linoleum trades may be of interest. In 1896 British exports of such goods amounted to 23,419,000 square yards, of the value of £954,000. In 1900, they were 27,846,000 square yards of the value of £1,312,000. Exports were made to France, Germany, Holland, Belgium, Canada, Australasia, South Africa, Egypt, Turkey, South America, and even the United States. Evidently there is an important demand for these goods in countries not now manufacturing the same—a market which might prove as accessible to manufacturers in the United States as to those of Great Britain.

German official statistics for the first nine months of 1901 give the following details regarding the trade in oil cloth:

	Imports.	Exports.
Plain oil cloth.....	marks. 60,000	412,000
Fancy oil cloth.....	650,000	1,112,000
Oil cloth fabric.....	56,000	5,000
Goods of fancy oil cloth.....	553,000	1,980,000
Total.....	marks. 1,319,000	3,509,000
Equivalent, U. S. money.....	\$ 313,922	\$ 835,142

Imports of kamptulicon, linoleum, etc., for the same time amounted in value to 110,000 marks [= \$26,180] and exports to 1,575,000 marks [= \$374,850.]

REPORTS from Pará are that the rubber market was materially affected by the news of Crude Rubber Co.'s embarrassment in New York.

AMERICAN CONSUMPTION OF RUBBER FOR 1901.

As indicated by the table at the foot of this page, the imports of crude India-rubber during 1901 were larger than for any preceding year. The exports to Europe were also larger, however, and there was a gain in stocks in New York. The combined deliveries to manufacturers in the United States and Canada, therefore, are stated as somewhat below the total deliveries for 1899, which thus still holds the "record." That year, however, showed a phenomenal increase over any previous consumption of rubber, and the figures for 1900 were held to indicate more nearly a normal condition of the rubber industry, and the reported increase of 2795 tons in consumption for 1901 over 1900 is evidence of a satisfactory condition of development. These figures do not embrace Gutta-percha, Balata, or the cheaper East Indian gums—all of which are taken into account in the India-rubber statistics published by the government, and by some private statisticians as well.

From the same source is obtained the following comparative statement of prices of fine Pará rubber in New York and Liverpool, for ten years past :

YEARS.	New York.	Liverpool.
1892.....	.62½ @ 74	2. 8 @ 2.11
1893.....	.64 @ 79	2.10 @ 3. 3
1894.....	.64½ @ 73	2. 9 @ 3. 1
1895.....	.70 @ 81½	3. 0¼ @ 3. 4¼
1896.....	.71 @ 85	3. 0½ @ 3. 8¾
1897.....	.79½ @ 89	3. 5 @ 3. 9
1898.....	.82 @ 1.06	3. 7½ @ 4. 5
1899.....	.91 @ 1.10	3.10 @ 4. 7¼
1900.....	.83 @ 1.11½	3. 8½ @ 4. 9
1901.....	.76 @ 95	3. 4 @ 3.11½

The figures in the next table, showing the extent of the world's visible supplies of rubber on January 1, 1902, have been derived from the Messrs. Morse's tables, though they are given on this page in pounds instead of tons, in order that they may be compared readily with former tables :

	Pounds.
Stocks in the United States.....	3,133,760
Pará grades.....	1,061,760
Central American and Caucho.....	71,680
African and East Indian.....	2,000,320
Stocks in Europe.....	7,492,800
Pará grades.....	3,001,200
All other.....	4,491,600
Stocks Pará grades at Pará and afloat.....	4,401,600
Total.....	15,028,160
Total, January 1, 1901.....	16,616,320
Total, January 1, 1900.....	10,251,480
Total, January 1, 1899.....	10,215,440
Total, January 1, 1898.....	9,920,960
Total, January 1, 1897.....	10,673,600

The next table analyzes the imports of crude rubber into the United States by grades, the figures denoting tons :

YEARS.	Fine Pará.	Coarse Pará.	* Centrals.	African and E. I.	Total.
1893.....	7,444	2,916	2,370	3,690	16,420
1894.....	6,839	2,614	2,309	2,881	14,643
1895.....	7,121	2,767	2,307	3,987	16,182
1896.....	6,515	2,706	1,807	3,303	14,333
1897.....	7,556	2,935	2,404	4,776	17,671
1898.....	6,804	2,935	3,003	5,878	18,620
1899.....	8,622	3,876	3,440	7,157	23,095
1900.....	8,079	3,906	3,020	5,463	20,468
1901.....	9,304	3,838	2,927	7,139	23,208

[* Including Caucho and Pernambuco.]

The percentage of fine Pará as compared with the whole imports increased slightly in 1900. The percentage for nine years has been : 45¼ in 1893 ; 46¾ in 1894 ; 44 in 1895 ; 45½ in 1896 ; 43¾ in 1897 ; 36½ in 1898 ; 37¼ in 1899 ; 39½ in 1900 ; 40 in 1901.

RUBBER EXPORTS FROM PERU.

THE German vice consul at Iquitos reports shipments of rubber from that port and from the Javary river territory in Peru during 1900 as follows :

GRADES.	Iquitos.	Javary.
Jebe, fine.....	653,021	823,055
Jebe, medium.....	48,374	20,515
Jebe, coarse.....	314,582	210,256
Caucho.....	180,310	88,737
Caucho, sernamby.....	694,232	19,725
Total.....	1,890,519	1,162,288

Of the Iquitos exports, 1,268,553 pounds went to Havre and 621,966 pounds to Liverpool. The vice consul gives average prices in Peruvian soles per arroba [=15 kilograms], which, converted into equivalents of United States money per pound at the average rate of exchange for each period, gives these results :

GRADES.	1899.	1 Half 1900.	2 Half 1900.
Jebe, fine.....	67.6	67.	60.2
Jebe, medium.....	63.7	62.7	51.7
Jebe, coarse.....	55.7	54.8	42.
Caucho.....	39.8	39.1	28.
Caucho, sernamby.....	57.	54.8	42.

The volume of exports in 1899 from the regions mentioned is not given, but it appears that in spite of lower prices, the total value was greater in 1900. The figures are 3,783,185 soles in 1900 and 2,889,402 soles in the preceding year. This is stated to be due to the fact that a larger proportion of fine rubber was gathered in the latter year, more people having become interested in this industry, since the decline in Caucho production on the Ucayali river, which supplies the Caucho shipped from Iquitos. The rubber known locally as "Jebe" is "Pará" rubber—the product of the *Hevea* trees.

CONSUMPTION OF INDIA-RUBBER BY THE UNITED STATES AND CANADA (IN TONS).

[From the Annual Statistical Summary of ALBERT T. MORSE & Co., New York.]

DETAILS.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Imports to United States.....	13,033	13,554	12,942	14,263	16,152	15,347	16,420	14,643	16,182	14,333	17,671	18,620	23,095	20,468	23,208
Exports to Europe.....	201	268	116	231	982	491	714	391	324	500	250	150	300	450	680
Net Imports.....	12,832	13,286	12,826	14,032	15,170	14,856	15,706	14,252	15,858	13,833	17,421	18,470	22,795	20,018	22,528
Add Stock January 1.....	1,700	1,674	1,609	746	1,260	1,086	1,217	1,037	1,420	558	641	744	591	712	1,198
Aggregating.....	14,532	14,960	14,435	14,778	16,430	15,942	16,923	15,289	17,278	14,391	18,062	19,214	23,386	20,730	23,726
Less Stock end of year.....	1,674	1,609	746	1,260	1,086	1,217	1,037	1,420	558	641	744	591	712	1,198	1,399
Deliveries to Manufacturers.....	12,858	13,351	13,689	13,518	15,344	14,725	15,886	13,869	16,720	13,750	17,318	18,623	22,674	19,532	22,327

HEARD AND SEEN IN THE TRADE.

THE gradual decline in crude rubber prices for a year or more past has not been accompanied by a corresponding decline in the cost of reclaimed rubber. "The reason is that crude rubber and reclaimed stock do not enter into competition," said a dealer in old rubbers. "When I first engaged in the business I supposed some relation to exist between crude rubber and reclaimed rubber prices, but I soon learned better. The price for crude rubber is governed by the laws of supply and demand. The same thing is true of rubber scrap, and of reclaimed rubber. If there should happen to be a very substantial and long maintained decline in crude rubber prices, it might have the effect of increasing consumption in some lines, and this might increase the demand for reclaimed rubber. But in such case, instead of reclaimed rubber prices falling, in harmony with crude rubber prices, they would advance, on account of the increased demand. But in fact the consumption of crude rubber is not regulated by price. When a demand exists for rubber footwear, for instance, the manufacturers are going to meet it, regardless of the price of crude rubber. But no matter how low rubber may be, it will not lead to an increased sale of rubber shoes if the weather is not such as make the people want such goods."

* * *

THERE isn't anything much more misleading than a comparison of the "capital" of different concerns in a given line of business. One company may operate wholly on its own money and other resources, while another works largely on borrowed capital; one reports only the original investment as "capital," while using in addition a large accumulation of profits, in the shape of surplus; and there are companies which have an "authorized capital" far in excess of what has actually been paid in. Clearly a comparison of the stated capital of companies cannot give much idea of their actual worth. The last reported sale of shares of one large rubber manufacturing concern was at \$228 per \$100 share, which indicates that in reporting their capital of \$1,000,000 at par, they are far from advertising their full strength.

* * *

A RECENT visitor to the offices of THE INDIA RUBBER WORLD asked for the names of some rubber manufacturers.

"In what branch?" he was asked, for the rubber industry in the United States is widely diversified.

"Oh, any good factories will do. I am a chemist, with a new rubber substitute to sell, and I don't know anybody in the rubber trade."

"Haven't you had it experimented with by any practical rubber manufacturer or superintendent?" the visitor was further asked.

"Not yet. The substitute has only just been perfected, and it is the best in the world."

The discoverer of the "best rubber substitute in the world," who had successfully guarded his secret from all rubber men, left his card behind him, and the name it bore has appeared since in the list of persons to whom patents have been granted at Washington. The "best rubber substitute" now has governmental protection.

* * *

AS has been remarked before in this page, so-called rubber substitutes are pretty certain to originate in the hands of persons whose knowledge of India-rubber is nearest to *nil*. A more recent visitor, also an avowed chemist of experience, is confident of being able to produce a "substitute" that will absolutely replace rubber in industry, possessing elasticity, insulat-

ing properties, the quality of being waterproof, and all. He, also, has not taken the trouble as yet to become acquainted with the practical side of rubber working.

* * *

THERE doesn't seem to be much respect shown for rubber tire patents on either side of the Atlantic. To use a time-dishonored rubber "joke," they certainly are "elastic." It is not long since an official of the Dunlop Tire company in England announced that the company had not earned the profits which they had anticipated, because their patents had not protected them from competition. Within a year they had been involved in 162 cases of litigation growing out of alleged infringements. And here comes an American tire company whose chief assets consists of patents, advertising a list of thirteen rubber manufacturers against whom they will proceed "in due season," to bring suits for infringement. But the making of tires doesn't seem to stop.

* * *

"WE have developed some pretty good features in tire making," said the president of a rubber company lately, "that we have been advised were patentable, but we prefer not to seek any protection for them from the government. It costs too much to protect patents."

* * *

"THE increased demand for Balata, and the advance in prices as compared with former years," said a member of the trade in New York, "is due to the great consumption of Gutta-percha within the same period. The only thing that can lead to an important consumption of Balata is a high price for Gutta-percha, the best substitute for which is Balata. There has been, during the past two or three years, an exceptionally active period in submarine cable building. There is a British Pacific cable under way, a contract is being executed for an American cable to Hawaii, and cables have been laid recently from England to South Africa and thence to Australia, besides two additional cables across the Atlantic. But such activity cannot continue indefinitely; the commercial necessity for many more cables of such lengths will not exist for years to come. With the pressure of this unusual demand for cables removed, Gutta-percha prices may be expected to decline, and with it the resumption of the use of Gutta-percha for which Balata has been coming into use. At the same time, the output of Balata has been increasing enormously. It is safe to predict, therefore, lower prices for Balata before they will be higher."

* * *

IT is only a few years since the rubber horseshoe pad was considered a good deal of a luxury, and there are very few in the rubber business who believed that the trade would amount to very much. With the increased use of asphalt for city streets, the business has, however, grown very large. A conservative estimate places the number of pads sold in New York city daily, at 1000 pairs and in the whole United States, at about 20,000 pairs. These pads last, as a rule, about a month, and they certainly appear to be of great benefit to horses. The business as a whole, from a manufacturer's standpoint, is said to amount to about \$4,500,000.

* * *

WHATEVER the character of the weather, it is certain to please somebody in the rubber industry. The Akron *Democrat* of November 1 said: "Local rubber men are not averse to a long continuation of the present dry, pleasant weather. It means that much less rubber will go into boots and overshoes and that the price of rubber may therefore be reduced—that it will not be advanced because of the great demand, at least." The rubber shoe people have since had reason also to be pleased.

RUBBER NOTES FROM EUROPE.

At the annual meeting of the India Rubber, Gutta Percha and Telegraph Works Co., Limited (London), December 17, it was stated that the total of the trading had been only slighter than for the previous year. The profit had not been so large, though the board felt that they had no great reason to complain. The always increasing competition in the various lines of manufacture in which the company was engaged called for the adoption of the best existing machinery and conveniences, and the company's works were continually undergoing alteration, by which means it was hoped to maintain the reputation which the company enjoyed for the excellence of its manufacture.

=At the above meeting reference was made to the death, which occurred on December 16, of Mr. Matthew Gray, who for many years was managing director of the Silvertown company. Born at Lanark, Scotland, in 1821, Matthew Gray served an apprenticeship in an engineering works at Glasgow, and at the age of 19 he went to London to study marine engineering. Later he became manager of a cotton factory in Glasgow and made many important inventions. He was interested in the laying of the first submarine cable in South American waters, in 1866, in January 1 of which year he became managing director at Silvertown—a position which he retained until his recent retirement on account of age. He manifested a marked degree of ability, which contributed largely to the growth of this important establishment. The directors of the company passed a vote of condolence to the family of Mr. Gray.

=James McKinlay, of the buying department of the India Rubber, Gutta Percha and Telegraph Works Co., Limited (Silvertown, London), died recently, in his seventy-fourth year. It is stated that for 34 years, the millions of money spent by this company in wages and for raw material had passed through his hands or been disbursed under his supervision.

=Michelin & Cie., leading rubber manufacturers in France, have established a branch house at Manheim, for the sale of their goods in Germany, of which Edouard Etienne Michelin is manager. The house of Michelin, with factories at Clermont-Ferrand, dates from 1832; their capital is now 2,000,000 francs; they are the manufacturers of the widely known "Michelin" pneumatic tires.

=The Aktieselskabet den Norse Remfabrik [The Norwegian Belt Factory Stock Co.], at Christiana, is mentioned as manufacturing Balata belting in addition to leather, hair and cotton belts.

NEW RECLAIMED RUBBER FACTORY.

"A SHORT time ago," says the *Gummi-Zeitung* (Dresden), "we had the pleasure to see with us Mr. Ernest E. Buckleton, who is regarded in the rubber industry of America as an experienced authority. At present Mr. Buckleton is traveling on the continent, to interest the rubber manufacturers for a new kind of reclaimed rubber, which, according to the samples this gentleman carries, represents most decidedly the best product of this kind, which we have seen so far. Presumably the manufacturing is going to be taken up in England this year on a large scale, and we shall then have more to say about it to our readers."

A BRANCH OF FRANKENBURG'S IN GERMANY.

THE firm of I. Frankenburg, Limited (Manchester, England), have established in Hamburg, Holstenhof, Kaiser Wilhelm strasse, a factory of rubber-cloaks for ladies and gentlemen. The firm have resolved upon establishing a factory on German

territory, in order the better to produce goods adapted to German taste and design. The management of this factory has been entrusted to Mr. Bock, who is well known in the business. The representation for Berlin has been accepted by Gustave Strelitzer, Charlottenburg, 94, Uhland strasse, also a gentleman familiar with the business for years.

THE GERMAN OXYLIN WORKS.

AT an extraordinary meeting of shareholders of the Oxylin-Werke, Aktiengesellschaft, of Piesteritz, Germany, held in Leipsic on December 30, it was resolved to reduce the capital from 1,000,000 marks to 250,000 marks, and to issue simultaneously preferred shares to the extent of 500,000 marks, for the purpose of meeting the company's debts and providing working capital. To further increase their funds, mortgages have been placed on the company's plant, which is insured for 1,200,000 marks. The company will be known in future as the Gummi-Werke "Elbe," Aktiengesellschaft. It will manufacture technical goods and hospital sheeting, in which lines the company began the new year with very considerable orders at satisfactory prices.

"CONCURRENT RUBBER."

THE term "rubber substitute," applied to the great variety of materials that are used as admixtures or fillers in the manufacture of India-rubber goods, is evidently a misleading one. A substitute is understood to "take the place of," and "answering the same purpose." There is no such substitute existing, and it appears safe to say that it never will be possible to produce by artificial means a substance that will take the place of India-rubber, possessing the wonderful qualities of the natural gum, its astounding elasticity and resiliency, waterproof, acid proof, insulating and other qualities. The term "Concurrent Rubber" adapted lately by Mr. Junius Nagel, of New York, for his very interesting new product, is much nearer to reality. "Concurrent" means "contributing to the same effect, acting in conjunction, agreeing, uniting with."

Mr. Nagel is the inventor of the well-known "Interior Conduits" (system of insulating tubes that are similar to hard rubber), a variety of asbestos and other new products, insulating materials, etc. According to the inventor no other artificially prepared substance so nearly resembles India-rubber. Its expansion reaches about four to five times its original volume, while its resiliency—though not acting instantaneously—is remarkable. It will mix and vulcanize with India-rubber, but may also be used independently for insulating electric wires, the manufacture of insulating tape for waterproofing, and the like. It contains no sulphur, rubber shoddy, or any foreign admixture; can be manufactured in any degree of hardness or softness, and its price is comparatively low.

"Concurrent rubber" is not one of the so called "oil substitutes," which in most cases are composed of vegetable oils. It may be stated nevertheless, that there is used in it about 20 per cent. of linseed oil, the balance being gums, etc. The linolein, however, owing to a peculiar process, is decomposed and is converted into linoleic anhydride and linoxyn. It is not considered advisable, that more than 20 per cent. to 25 per cent. of "concurrent rubber" should be admixed in the manufacture of first-class rubber goods; consequently, in this case, the linseed oil derivatives contained in the whole compound, will not amount to more than 4 to 5 per cent.

Finally it may be mentioned that "concurrent rubber," although a new article, has been tested and tried by a number of prominent rubber manufacturers, who report satisfactory results.

REVIEW OF THE CRUDE RUBBER MARKET.

EARLY in the month the embarrassed condition of an important importing house was made known, with the result that the market has since been in an unsettled condition. The house in question having held larger stocks than had generally been supposed, the trade naturally became concerned to know how speedily this surplus might be placed upon the market. In one sense the stocks referred to were in strong hands, but banks holding rubber to secure advances do not necessarily have the same incentive as a merchant to hold surplus stocks with a view to sustaining the market. It appears, however, that the policy has been pursued of gradual liquidation, so that, while a lower level of prices is to be reported, the decline is less than might otherwise have resulted. The attitude of manufacturers, however, would indicate the hope, on their part, that still better terms may yet be had, in which they are encouraged by the fact that all predictions of a midwinter falling off in receipts at Pará have failed of realization. Up to January 28 arrivals there, for the crop year, had amounted to 15,614 tons, against 13,735 tons up to February 1 last year.

Whatever motives may have led to the recent accumulations of rubber—much of it at high prices—the effect of the business failure which followed will be again to discourage, for awhile at least, the idea of “cornering” rubber. While it is true that the production is in many ways restricted, and can be extended only by slow degrees, while the consumption seems ever on the increase, yet higher prices somehow have the effect always of bringing more rubber to market, and lower prices the opposite effect. This fact operates as a certain safeguard against an unlimited inflation of prices by control of stocks. It is a fact, too, which an experienced trader might be expected to consider before buying largely, at prices already abnormally high, a commodity which shrinks so rapidly in volume as rubber, and the expense of storing which is so heavy.

In dealing with the stocks of Pará rubber in the United States at the beginning of the year, the annual review issued by the Henry A. Gould Co., gives a much larger estimate than has been usual in the trade, based upon the holdings of the firm whose recent embarrassment is referred to elsewhere—866 tons larger in fact, than reported in other channels. The difficulty is admitted, however, of deciding how the rubber in question should be allotted as between importers and consumers—so that the amount really to be reckoned with in market values remains to be defined.

Centrals are taken readily on arrival at New York, but Africans are in less demand, as is to be expected whenever coarse Pará is obtainable at the existing prices.

New York quotations on January 30 were :

PARÁ.		CENTRALS.	
Islands, fine, new...75	@76	Esmeralda, sausage...51	@52
Islands, fine, old...77	@78	Guayaquil, strip...50	@51
Upriver, fine, new...76	@77	Nicaragua, scrap...51	@52
Upriver, fine, old...78	@79	Mangabeira, sheet...40	@41
Islands, coarse, new...47	@48	AFRICAN.	
Islands, coarse, old...@		Tongues...44	@45
Upriver, coarse, new...60	@61	Sierra Leone, 1st quality...63	@64
Upriver, coarse, old...@		Benguella...45	@46
Caucho (Peruvian) sheet 47	@48	Cameroon ball...44	@45
Caucho (Peruvian) ball 55	@56	Flake and lumps...30	@31
EAST INDIAN.		Accra flake...17	@18
Assam...57	@58	Accra buttons...46	@47
Borneo...36	@46	Accra strips...51	@52

Lagos buttons...45	@46	Madagascar, pinky...61	@62
Lagos strips...50	@51	Madagascar, black...@	
Late Pará cables quote :			
Per Kilo.		Per Kilo	
Islands, fine...5	@5000	Upriver, fine...5	@900
Islands, coarse...2	\$700	Upriver, coarse...4	\$300
Exchange, 11½d.			

Manáos advices, same date :			
Upriver, fine...5	\$400	Upriver, coarse...3	\$500
Exchange 12¾d.			

NEW YORK RUBBER PRICES FOR DECEMBER (NEW RUBBER.)			
	1901.	1900.	1899.
Upriver, fine...85	@87	92	@95 108 @110
Upriver, coarse...65	@66	67½	@69 86 @90
Islands, fine...79	@81	86	@89 105½ @108
Islands, coarse...48	@51	53	@54½ 65 @69
Cameté, coarse...50	@51	54	@56 66 @70

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows :

“During January the demand for paper was very small for the first half of the month, but during the last few days has increased somewhat, though not yet large, and present rates are 5 per cent. for the best rubber names and 5½ @ 6 per cent. for the smaller ones.”

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.						
	Fine and Medium.	Coarse.	Total 1901.	Total 1900.	Total 1899.	
Stocks, November 30. tons	508	27 =	535	579	306	
Arrivals, December.....	747	272 =	1019	1858	943	
Aggregating.....	1255	299 =	1554	2437	1249	
Deliveries, December.....	794	276 =	1070	1779	839	
Stocks, December 31..	461	23 =	484	658	410	
PARÁ.						
	1901.	1900.	1899.	ENGLAND.		
	1901.	1900.	1899.	1901.	1900.	1899.
Stocks, November 30. tons	410	610	305	885	950	435
Arrivals, December...3545	3145	2600	1241	530	580	
Aggregating....3955	3755	2905	2126	1480	1015	
Deliveries, December.3805	3095	2245	827	700	575	
Stocks, Dec. 31..150	660	660	1299	780	440	
World's supply, December 31.....						
			1901.	1900.	1899.	
Pará receipts, July 1 to December 31.....			4432	3660	3233	
Pará receipts of Caucho, same dates.....			946	10,736	11,085	
Afloat from Pará to United States, Dec. 31..			*1136			450	977
Afloat from Pará to Europe, December 31...†			1140	1120	826	
[* Includes 58 tons Caucho. † Includes 20 tons Caucho.]						

United States Crude Rubber Imports.

[FROM GOVERNMENT RETURNS.]			
FROM —	1899.	1900.	1901.
United Kingdom... pounds	10,438,594	7,640,073	6,802,372
Germany	2,110,930	1,428,339	1,832,558
Other Europe.....	7,480,466	6,124,247	9,400,127
Central America	1,458,255	1,363,131	1,247,517
Mexico	407,237	362,960	267,565
West Indies.....	5,028	35,125	42,844
Brazil.....	29,428,103	30,571,680	33,719,709
Other South America	2,156,190	1,161,897	1,336,131
East Indies.....	857,536	600,306	455,870
Africa.....	4,106	....	....
Other Countries.....	62,050	49,425	48,117
Total..... pounds	54,408,495	49,337,183	55,152,810
Value.....	\$34,219,019	\$28,577,789	\$28,120,218
Gutta-percha imports.....	506,988	367,465	410,092
Value.....	\$178,301	\$142,376	\$224,807

Liverpool.

WILLIAM WRIGHT & Co. report [January 2]:

Fine Pará.—There has been a good demand for spot rubber at steady prices, and the tone of the market at the close is firm; Upriver 3s. 7d., Islands, 3s. 6d. Old Upriver sold at 3s. 9½d. The demand in Pará is strong, especially for America, and the advent of winter in the States ought certainly to help prices in the near future, especially if the prediction as to crop supplies is realized. Reviewing the situation as a whole, we think the market is in a sound position. There is little or nospeculation, trade has been on the whole good, prices are considerably lower than they have been for some time past, stocks are well held, and the general anticipation is that early in the new year we shall see an improvement both in demand and prices; at any rate, in our opinion, present rates are worth manufacturers' attention. Sales on spot total 200 tons as above; for delivery the demand has been quiet, closing prices for Upriver being 3s. 7d. to 3s. 7½d., and Islands 3s. 6d. to 3s. 6½d., according to position.

MR. A. J. FONTANNAZ, until December 31 last Liverpool agent of the Cie. Française de l'Afrique Occidentale (with 6,000,000 francs capital and head offices at Marseilles), retired on that date to become a member of the produce brokerage firm of William Porter & Co., The Albany buildings, Liverpool.—The Liverpool house of the French company named, at 6, Castle street, has been placed in charge of Mr. A. Pourrière, for some time in charge of the company's Sierra Leone house, and who is fully acquainted with all the branches of their business.

MARIUS & LEVY report [January 14]: "Receipts [of Pará] have increased so far by about 2400 tons in excess of the last crop, but on the other hand, Mediums [Africans, etc.] have decreased 2560 tons, which balances the excess of the Pará crop. Fine Pará has touched a figure which has not been seen for many years, and we may say that it is now the cheapest rubber in the world, and that fact will bring more buyers forward for this grade." They emphasize the fact, however, that low prices never have been known to increase production, so that curtailed supplies will, in the end, result in another advance in rubber.

London.

EDWARD TILL & Co., under date of January 1, report stocks:

	1902.	1901.	1900.
LONDON { Pará sorts..... tons —	—	—	—
{ Borneo.....	144	220	179
{ Assam and Rangoon.....	52	30	17
{ Other sorts.....	442	788	448
Total.....	638	1038	644
LIVERPOOL { Pará.....	1302	776	440
{ Other sorts.....	854	1087	771
Total United Kingdom.....	2794	2901	1855
Total, December 1.....	2525	3061	1789
Total, November 1.....	2602	3040	1860
Total, October 1.....	2802	2846	1831
Total, September 1.....	2736	3170	1988
Total, August 1.....	2944	3645	1878
Total, July 1.....	3128	3653	2247

PRICES PAID DURING DECEMBER.

	1901.	1900.	1899.
Pará fine, hard.....	3/7 @3/7½	3/9½ @3/10	4/5½ @4/6½
Do soft.....	3/4½ @3/6½	3/9½ @4/-	4/7
Negroheads, Islands.....	2/0¼ @2/1	2/1½	2/9
Do scrappy.....	2/7 @2/9	2/9 @2/10	3/7 @3/7½
Bolivian.....	3/7½ @3/9	No sales.	4/7

THE partnership of Jackson & Till, Mincing lane, London, expired by limitation of time on December 31. The business of the recent firm will be continued in two separate branches—that of rice under the style of *Jackson, Son & Co.*, and that of India-rubber and Gutta-percha under the style of *Edward Till*

& Co., embracing Mr. Edward Till, his nephew, H. S. Till, and his son, E. W. Till. Both firms will occupy the same offices as hitherto.

FIGGIS & Co. say, in their annual review: "The year has shown a continued increase of demand for the finer rubbers at relatively higher prices, and the European consumption of fine Pará considerably exceeds any previous year. English manufacturers have been very busy; Continental fairly so. American were less occupied, until the last three months. On the whole, the year has been a very active one."

Antwerp.

EMILE GRISAR'S annual review for 1901 shows a continued growth of this market, due to increased activity of producers in Africa. The efforts to build up a market for other than Congo sorts at Antwerp have not been encouraging on account of irregular supplies, lack of uniform qualities, and the preference of buyers in this market for Congo rubbers. The following comparison bears upon this subject, showing the source of rubber imports (in kilograms):

	1899.	1900.	1901.
Congo Free State....	2,992,414	4,902,003	5,417,456
Other countries.	410,466	796,032	431,746
Total.....	3,402,880	5,698,035	5,849,202

At times during the year there have been large accumulations of rubber here, but concessions which were made in prices attracted a wider circle of buyers, and stocks were reduced. The actual production of the Congo Free State may now be considered as normal, and the efforts of the agents of the different companies appear to be directed more to improving the quality of the product and to the proper storage than to increasing the output. The plans of the newly organized "Syndicat du Kassai" lead to the hope of an important increase in the value of the rubber production in the basins of the Kassai and Lualaba rivers. Those districts sent formerly some of the finest rubber ever seen in Antwerp, since which, owing to the pressure of buyers for rubber the quality has diminished to an embarrassing degree, the negroes caring only for the quantity produced. Many lots from that region during the year consisted of balls of which only the outside was rubber, the interior being badly mixed with bark and other foreign matters. The quality of the so called "white" Upper Congo rubbers still leaves much to be desired. The trouble has been due in part to the admixture of rubber milk from different plants, and partly to insufficient drying of the rubber. Prices at Antwerp improved during the first part of the year—especially in April, when there was heavy buying for America—after which they declined materially. There was again some improvement toward the end of the year, but the close was at a lower level than twelve months before.

COMPARATIVE PRICES.

GRADES.	Dec. 31, 1899.	Dec. 31, 1900.	Dec. 31, 1901.
Kassai, redfrancs per kilo.	10.50	9.	8.52½
Lopori, Bussira, Equateur, Lulonga, Ikelemba.....	10.62½	8.35	7.90
Aruwimi.....	9.45	7.75	7.50
Mongalla.....	10.25	7.90	7.50
Upper Congo, ordinary.....	10.25	7.90	7.35
Lower Congo red thimbles.....	6.17½	4.32½	3.80
Fine Pará.....	4s. 7d.	3s. 10d.	3s. 7d.

C. SCHMID & Co. report [January 2] that the market had been featureless since the last preceding sale, only small lots having changed hands at unchanged prices. Prices had declined, on an average, about 6 per cent. during 1901. The production of rubber in the Congo Free State seems to have

reached a climax for the present, the increase during the year having been only 500 tons. There were to be exposed for sale on January 21 about 344 tons of Congo sorts, with valuations as follows—in francs per kilogram—of principal lots :

32 tons Lopori firsts.....7.80	27 tons Lomami.....7.25
52 " Upper Congo balls..7.15	13 " Upper Congo strips..6.50
34 " Aruwimi.....5.75	17 " Uelé strips.....5.75
25 " Mongalla.....6.75	9 " Kassai red.....6.95
17 " Lake Leopold I....4.50	11 " Djuma red.....5.15

ANTWERP RUBBER STATISTICS FOR DECEMBER.

DETAILS.	1901.	1900.	1899.	1898.	1897.
Stocks, Nov. 30. Kilos	843,301	1,064,646	179,778	270,315	183,215
Arrivals December.	204,860	170,135	319,351	220,869	84,880
Congo sorts.....	182,525	151,726	269,879	193,671	56,361
Other sorts.....	22,335	18,409	49,472	27,198	28,519
Aggregating...	1,048,221	1,234,781	499,129	491,184	268,095
Sales December....	633,512	620,742	207,138	227,844	173,632
Stocks, Dec. 31.	414,709	614,039	291,991	263,340	94,463
Arrivals since Jan. 1	5,849,202	5,698,035	3,402,880	2,014,591	1,679,154
Congo sorts.....	5,417,456	4,902,003	2,881,596	1,734,305	1,543,203
Other sorts.....	431,746	796,032	521,284	280,286	135,951
Sales since Jan. 1..	6,048,442	5,375,987	3,374,229	1,845,714	1,724,319

ARRIVALS AT ANTWERP.

JANUARY 3.—By the *Anversville*, from the Congo :

Bunge & Co.....(Société Anversoise) Kilos	3,500
Bunge & Co.....(Comité Spécial Katanga)	16,000
Bunge & Co.....(Plantations Lacourt)	7,000
Bunge & Co.....(Société Isanghi)	8,000
Bunge & Co.....(Domaine privé Etat du Congo)	173,000
Ch. Dethier.....(Société Belgika)	37,000
Société A B I R.....	11,000
M. S. Cols.....(Produits Vegetaux du Kassai)	12,000
Société Coloniale Anversoise (Belge du Haut Congo)	35,000
Société Coloniale Anversoise. (Cie. des Mag. Generaux)	9,000
Société Coloniale Anversoise.....(Société Lomami)	9,000
Cie. Commerciale des Colonies.....(La Kassaienne)	4,000
Cie. Commerciale des Colonies (Cie Française du Congo)	3,000
L. & W. Van de Velde (Comptoirs Congolais Velde),	9,000
Credit Commercial Congolais.....(La Lulonga)	4,000
Crédit Commercial Congolais (M. D'Heygere à Gand)	1,500
Traffic Congolais.....	2,000
Société pour Commerce Colonial....(Est du Kwango)	4,000
Comptoir Commercial Congolais.....	4,000
Soc. Agricole & Commercial de l'Alima.....	3,000
	355,000

[Arrivals same date, 1901—208,000 kilograms.]

M. LOUIS M. L. GELIS, of Antwerp, advises THE INDIA RUBBER WORLD that on January 10 he retired from the directorate of the Cie. Commerciale des Colonies, Société Anonyme, of that city, engaged in exploiting rubber in Brazil and Africa.

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Hamburg market during the past week showed no sign of life whatever, along the whole line, and the tendency, caused by the retrogression of Pará prices, is a waiting one, in consequence of which the transactions remained within narrow bounds. The disposals were—at marks per kilogram :

Bolivian, fine, spot.....	7.85 @ 7.90
Bolivian negroheads, spot.....	5.90
Mollendo, fine, new.....	7.65
Mozambique ball, fine red.....	7.50
Mozambique ball, fine red.....	7.35
Massai niggers, fine red.....	6.10
Bissao ball, fine white.....	5.50
Adeli ball, fine red, slightly mixed.....	6.10
Ecuador scrap, fine.....	5.75
Colombia scrap, good.....	5.60
Batanga ball.....	4.15 @ 4.20
White Borneo.....	5.00 @ 5.10

Hamburg, January 14, 1902.

Lisbon.

MARTIN WEINSTEIN & Co. report arrivals, in metric tons :

	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Benguella niggers..	1154	1306	1583	1793	2444	1879	1614	1460
Loanda niggers....	727	679	660	983	962	885	678	754
Congo thimbles....	138	29	45	89	150	264	206	145
Other sorts.....	45	103	28	41	20	30	48	71
Total ..	2064	2117	2316	2906	3576	3058	2546	2430

British Imports of India-Rubber.

	1899.	1900.	1901.
Imports..... pounds.	50,360,912	57,488,032	52,161,088
Exports.....	34,284,320	32,885,888	32,604,704
Net imports.....	16,076,592	24,602,144	19,256,384
GUTTA-PERCHA.			
Imports..... pounds.	9,239,664	14,118,608	9,883,552
Exports.....	840,224	1,709,792	1,224,832
Net imports.....	8,399,440	12,408,816	8,658,720

Gutta-Percha.

REPORTS are at hand relative to the exports from Singapore during 1901 up to December 10, which are stated below, together with exports for the first eleven months of 1901, compared with the same period of 1900, and showing a considerable decline during the past year :

To—	To Dec. 10.	11 mos. 1901.	11 mos. 1900.
Great Britain... pounds	7,657,066 ³ / ₈	7,336,000	9,763,733 ¹ / ₈
Other Europe.....	2,921,466 ⁵ / ₈	2,900,400	2,740,266 ³ / ₈
United States.....	1,136,800	1,321,333 ¹ / ₈	254,333 ¹ / ₈
Total....	11,715,333 ¹ / ₈	11,557,733 ¹ / ₈	13,758,333 ¹ / ₈

GUTTA-JELUTONG (PONTIANAK).

Great Britain.....	829,600	829,600	2,711,733 ¹ / ₈
Other Europe..	1,572,800	1,474,266 ³ / ₈	733,466 ³ / ₈
United States.....	13,828,000	13,612,400	7,442,133 ¹ / ₈
	16,230,400	15,916,266 ³ / ₈	10,887,333 ¹ / ₈

Late quotations for Gutta-jelutong, \$7 silver per picul ; equivalent to about 1.6 cents per pound.

Balata.

FRENCH GUIANA has not figured as a Balata exporting country hitherto, but it is stated that during the first seven months of 1901 there were shipped from that colony 3547½ kilos [=78,045 pounds] of this material.

It is stated that very little Gutta-percha and Balata reaches the open market at Rotterdam, although a very large business is done privately in these materials at that port.

Kramrisch & Co. (Liverpool) in their trade review for 1901 report : " *Balata*.—We had reduced arrivals of these descriptions, and all the imports of these grades have met with a good demand, although at one time block Balata was as low as 1s. 7d. The year closes with buyers at 2s. and sellers at 2s. 1d. Nearly the whole of the stock in first and second hands has been cleared off and gone into consumption, and all new arrivals are selling very readily at full price. *Sheet Balata*.—Owing to the increased consumption the prices have also gradually gone up, and the market closes with buyers at 2s. 7d. showing 4d. per pound advance for the year."

TO THE EDITOR OF THE INDIA RUBBER WORLD: The shipment of Balata from the port of Ciudad Bolivar during 1901 was as follows ; in kilograms :

January-July....	269,105	November	212,775
August.....	112,427	December.....	255,603
September.....	178,731		
October ..	167,873	Total.....	1,196,414

This amount is only slightly smaller than the figures for the

same port in 1900. The season has been a good one, but the political troubles in the country have interfered with trade. I hope soon to be able to forward a statement of the total Balata export from Venezuela.

Boston Rubber Shoe Co. ....	.....	.....	.....	11,700=	11,700
L. Hageners & Co.	3,900	.....	800	.....=	4,700
Total.	650,200	158,700	393,700	63,500=	1,266,100

Cuidad Bolivar, Venezuela, January 14, 1901.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

January 3.—By the steamer *Gregory*, from Manãos and Pará :

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
A. T. Morse & Co.	219,200	48,000	157,300	300=	424,800
New York Commercial Co.	202,000	66,000	105,400	3,400=	376,800
International Crude R. Co.	145,000	25,300	42,100	300=	212,800
Reimers & Co.	67,100	18,300	85,100	26,800=	197,300
Lawrence Johnson & Co.	12,900	1,100	2,700	6,500=	23,200
William Wright & Co. ....	.....	.....	300	14,500=	14,800

January 21.—By the steamer *Cearense* from Manãos and Pará :

A. T. Morse & Co.	74,400	20,800	157,300	71,200=	323,700
Reimers & Co.	72,900	26,400	90,500	31,800=	221,600
New York Commercial Co.	42,400	27,700	52,300	1,000=	123,400
International Crude R. Co.	33,200	6,700	7,100	400=	47,400
United States Rubber Co.	22,000	1,900	6,300	.....=	30,200
Boston Rubber Shoe Co. ....	.....	.....	22,700	.....=	22,700
Lawrence Johnson & Co. ....	.....	.....	11,400	.....=	11,400
Robinson & Tallman.	6,300	1,800	1,700	.....=	9,800
L. Hageners & Co.	3,800	.....	700	.....=	4,500
Total.	255,000	85,300	350,000	104,400=	794,700

[NOTE.—The *Cametense*, with 520 tons of Rubber was due at New York, on January 29.]

PARA RUBBER VIA EUROPE.

DEC. 20.—By the <i>Majestic</i> =Liverpool:	POUNDS.
Reimers & Co. (Coarse).....	10,600
DEC. 30.—By the <i>Umbria</i> =Liverpool:	
Reimers & Co. (Caucho).....	33,400
JAN. 3, 1902.—By the <i>Tauric</i> =Liverpool:	
Edmund Reeks & Co. (Caucho).....	10,400
JAN. 6.—By the <i>Cymrie</i> =Liverpool:	
Edmund Reeks & Co. (Fine).....	6,000
Edmund Reeks & Co. (Coarse).....	2,000
Edmund Reeks & Co. (Caucho).....	2,500
Total.....	10,500
JAN. 7.—By the <i>Saxonia</i> =Liverpool:	
A. T. Morse & Co. (Coarse).....	11,500
Reimers & Co. (Coarse).....	9,000
Total.....	20,500
JAN. 9.—By the <i>Teutonic</i> =Liverpool:	
Reimers & Co. (Caucho).....	11,500
JAN. 13.—By the <i>Etruria</i> =Liverpool:	
Reimers & Co. (Fine).....	10,000
JAN. 15.—By the <i>Cuzco</i> =Mollendo:	
New York Commercial Co. (Fine).....	9,500
New York Commercial Co. (Coarse).....	1,500
Total.....	11,000
JAN. 18.—By <i>La Savoie</i> =Havre:	
Reimers & Co. (Fine).....	16,000

JAN. 2.—By the *Finance*=Colon:

Hirzel, Feltman & Co.	10,000
A. Santos & Co.	6,700
Dumarest & Co.	5,430
Flint, Eddy & Co.	4,500
G. Amslnck & Co.	4,000
International Crude Rubber Co.	2,900
Ascensio & Cossio	1,500
W. R. Grace & Co.	600
Everett, Heaney & Co.	600
Eggers & Heinlein	500
Total.....	36,700
JAN. 2.—By <i>El Sud</i> =New Orleans:	
A. T. Morse & Co.	5,500
JAN. 3.—By N. Y. Cen. R.R.=San Francisco:	
J. Gilgar.....	4,000
G. Amslnck & Co.	700
L. N. Chemedilo & Co.	700
Total.....	5,400
JAN. 4.—By <i>El Norte</i> =New Orleans:	
A. T. Morse & Co.	3,500
JAN. 6.—By the <i>City of Washington</i> =Mexico:	
H. Marquardt & Co.	2,500
Fred. Probst & Co.	1,500
E. N. Tibbals.....	300
Total.....	4,300
JAN. 6.—By the <i>Cervantes</i> =Bahia:	
Lawrence Johnson & Co.	1,300
G. Amslnck & Co.	500
Susdorf, Zaldo & Co.	200
Total.....	2,000
JAN. 10.—By the <i>Havana</i> =Mexico:	
E. Steiger & Co.	4,000
Thebaud Brothers.....	1,500
Harburger & Stack.....	200
Total.....	5,700
JAN. 13.—By the <i>Palatia</i> =Hamburg:	
A. T. Morse & Co.	2,200

OTHER ARRIVALS AT NEW YORK

CENTRALS.

DEC. 24.—By the <i>Alliance</i> =Colon:	POUNDS.
Hirzel, Feltman & Co.	15,300
A. P. Strout.....	10,500
Isaac Brandon & Bros.	7,700
A. Santos & Co.	6,700
D. A. De Lima & Co.	3,600
Flint, Eddy & Co.	3,300
G. Amslnck & Co.	2,300
W. R. Grace & Co.	3,000
Dumarest & Co.	1,500
Crude Rubber Co.	1,500
Frame, Alston & Co.	2,300
Eggers & Heinlein	1,100
Thebaud Brothers.....	1,000
J. W. Wilson & Co.	200
Joseph Hecht.....	900
R. G. Barthold.....	500
D. N. Carrington.....	400
Total.....	60,800
DEC. 24.—By the <i>Altai</i> =Savanna:	
Kunhardt & Co.	2,000
D. A. De Lima & Co.	1,500
Lawrence Johnson & Co.	1,500
G. Amslnck & Co.	1,500
Samper & Co.	1,000
S. A. Naulier.....	1,500
Total.....	9,000
DEC. 27.—By <i>El Dorado</i> =New Orleans:	
L. N. Chemedilo & Co.	2,200
Eggers & Heinlein.....	500
For Europe.....	2,500
Total.....	5,200
DEC. 30.—By the <i>Raphael</i> =Bahia:	
J. H. Kossbach & Bros.	12,500
DEC. 30.—By the <i>Comus</i> =New Orleans:	
A. T. Morse & Co.	4,500
DEC. 31.—By the <i>Athos</i> =Greytown:	
A. P. Strout.....	14,500
A. D. Straus & Co.	9,000
G. Amslnck & Co.	4,000
Jimenez & Escobar.....	3,500
D. A. De Lima & Co.	1,500
J. A. Medina.....	1,000
Total.....	33,500

Total.....	5,400
JAN. 4.—By <i>El Norte</i> =New Orleans:	
A. T. Morse & Co.	3,500
JAN. 6.—By the <i>City of Washington</i> =Mexico:	
H. Marquardt & Co.	2,500
Fred. Probst & Co.	1,500
E. N. Tibbals.....	300
Total.....	4,300
JAN. 6.—By the <i>Cervantes</i> =Bahia:	
Lawrence Johnson & Co.	1,300
G. Amslnck & Co.	500
Susdorf, Zaldo & Co.	200
Total.....	2,000
JAN. 10.—By the <i>Havana</i> =Mexico:	
E. Steiger & Co.	4,000
Thebaud Brothers.....	1,500
Harburger & Stack.....	200
Total.....	5,700
JAN. 13.—By the <i>Palatia</i> =Hamburg:	
A. T. Morse & Co.	2,200
JAN. 10.—By the <i>Orizaba</i> =Colon:	
Hirzel, Feltman & Co.	9,500
H. Marquardt & Co.	5,300
G. Amslnck & Co.	2,200
Mecke & Co.	1,900
Kunhardt & Co.	1,500
Joseph Hecht & Son	1,400
Lawrence Johnson & Co.	1,200
W. Loalza & Co.	1,200
A. D. Straus & Co.	1,100
Smithers, Nordenholt & Co.	200
Total.....	25,500
JAN. 11.—By <i>El Cid</i> =New Orleans:	
A. T. Morse & Co.	1,000
Eggers & Heinlein.....	1,500
For Europe.....	3,000
Total.....	5,500
JAN. 14.—By the <i>Alene</i> =Greytown:	
A. P. Strout.....	10,000
G. Amslnck & Co.	4,000
A. D. Straus & Co.	3,000
D. A. De Lima & Co.	1,200
J. A. Pauli & Co.	700
Lawrence Johnson & Co.	600
Total.....	19,500
JAN. 16.—By the <i>Advance</i> =Colon:	
Hirzel, Feltman & Co.	1,700
Flint, Eddy & Co.	1,200
Total.....	2,900
JAN. 16.—By Pennsylvania R.R.=New Orleans:	
John Gilgar.....	1,200
For Europe.....	4,000
Total.....	5,200
JAN. 17.—By the <i>Esperanza</i> =Mexico:	
Thebaud Bros.....	3,000
E. Steiger & Co.	1,300
Harburger & Stack.....	700
Total.....	5,000
JAN. 17.—By the <i>Germanic</i> =Liverpool:	
Livesey & Co.	6,000
JAN. 18.—By the <i>Seneca</i> =Mexico:	
Flint, Eddy & Co.	5,500
H. Marquardt & Co.	500

Graham, Hinckley & Co.	200	6,200
JAN. 20.—By <i>El Mar</i> =New Orleans:		
A. T. Morse & Co.	7,000	
A. N. Rothholz.....	6,000	13,000
JAN. 21.—By the <i>Altai</i> =Carthage:		
D. A. De Lima & Co.	3,600	
Kunhardt & Co.	2,200	
Lawrence Johnson & Co.	1,000	
Isaac Brandon & Bros.	500	
New York Commercial Co.	300	
Jimenez & Escobar.....	200	7,200

JAN. 21.—By the <i>Cyrene</i> =Bahia:		
J. H. Kossbach & Bros.		13,000

AFRICANS.

DEC. 26.—By the <i>Majestic</i> =Liverpool:	POUNDS.
A. T. Morse & Co.	23,000
George A. Alden & Co.	12,000
Crude Rubber Co.	11,000
Total.....	46,000
DEC. 27.—By the <i>Haverford</i> =Antwerp:	
Reimers & Co.	86,500
George A. Alden & Co.	73,000
Joseph Cauter.....	2,000
Crude Rubber Co.	73,000
Total.....	234,500
DEC. 27.—By the <i>Patria</i> =Hamburg:	
A. T. Morse & Co.	35,000
Otto G. Mayer, Boston	7,000
Reimers & Co.	2,500
Total.....	44,500
DEC. 30.—By the <i>Umbria</i> =Liverpool:	
George A. Alden & Co.	53,000
Crude Rubber Co.	52,500
Livesey & Co.	11,000
Reimers & Co.	10,000
Total.....	126,500
JAN. 2.—By the <i>Zeland</i> =Antwerp:	
Reimers & Co.	127,000
International Crude Rubber Co.	100,000
George A. Alden & Co.	85,000
For Boston.....	44,000
Total.....	356,000
JAN. 3.—By the <i>Tauric</i> =Liverpool:	
George A. Alden & Co.	22,500
International Crude Rubber Co.	22,000
Total.....	44,500
JAN. 7.—By the <i>Saxonia</i> =Liverpool:	
Robinson & Tallman.....	23,000
Reimers & Co.	5,000
Total.....	28,000
JAN. 9.—By the <i>Teutonic</i> =Liverpool:	
George A. Alden & Co.	16,000
International Crude Rubber Co.	4,000
Total.....	20,000
JAN. 9.—By the <i>Friesland</i> =Antwerp:	
For Boston.....	35,000
JAN. 11.—By the <i>Peninsular</i> =Lisbon:	
Reimers & Co.	56,000
A. T. Morse & Co.	11,500
Total.....	67,000
JAN. 13.—By the <i>Etruria</i> =Liverpool:	
Robinson & Tallman.....	15,000
JAN. 15.—By the <i>Southwark</i> =Antwerp:	
George A. Alden & Co.	3,500
International Crude Rubber Co.	3,000
Total.....	6,500
JAN. 16.—By the <i>Georgie</i> =Liverpool:	
George A. Alden & Co.	17,000
International Crude Rubber Co.	18,000
Total.....	35,000
JAN. 17.—By the <i>Pennsylvania</i> =Hamburg:	
Otto Meyer, Boston.....	18,500
Livesey & Co.	10,000
George A. Alden & Co.	10,000
International Crude Rubber Co.	10,000
A. T. Morse & Co.	2,000
Total.....	50,500

AFRICANS—Continued.

JAN. 17.—By the *Germanic*=Liverpool:
 Robinson & Tallman 22,500
 Livesey & Co. 11,500 34,000

JAN. 18.—By the *Panama*=Bordeaux:
 Robert B. Baird 2,500
 Reimers & Co. 2,500 6,000

JAN. 20.—By the *Ircnia*=Liverpool:
 International Crude Rubber Co. 35,000
 George A. Alden & Co. 7,000 42,000

JAN. 21.—By the *Vaderland*=Antwerp:
 Joseph Cantor 9,000

EAST INDIAN.

DEC. 27.—By the *Patricia*=Hamburg:
 William Wright & Co. 11,500

DEC. 31.—By the *Longships*=Singapore:
 D. P. Cruikshank 22,500

JAN. 17.—By the *St. Louis*=Southampton:
 George A. Alden & Co. 39,000

JAN. 13.—By the *Satsuma*=Singapore:
 William Wright & Co. 13,500
 Reimers & Co. 11,500 25,000

JAN. 20.—By the *Adana*=Singapore:
 Robert Brauss & Co. 15,000
 Schlieffenao, Herr & Co. 1,500 16,500

PONTIANAK.

DEC. 31.—By the *Longships*=Singapore:
 Livesey & Co. 270,000
 William Wright & Co. 125,000
 Reimers & Co. 200,000
 George A. Alden & Co. 160,000
 Robinson & Tallman 33,000 788,000

JAN. 13.—By the *Satsuma*=Singapore:
 George A. Alden & Co. 425,000
 Reimers & Co. 225,000
 William Wright & Co. 110,000
 Robinson & Tallman 150,000
 Littlejohn & Parsons 22,000 932,000

JAN. 20.—By the *Richmond Castle*=Singapore:
 George A. Alden & Co. 200,000

EAST INDIANS—Continued.

JAN. 20.—By the *Adana*=Singapore:
 W. R. Russell & Co. 250,000
 George A. Alden & Co. 120,000 400,000

GUTTA-PERCHA AND BALATA.

DEC. 31.—By the *Longships*=Singapore:
 Robert Soltau & Co. 13,500

BALATA.

JAN. 4.—By the *Maracas*=Trinidad:
 George A. Alden & Co. 2,000

JAN. 16.—By the *Prins Fred. Hendrik*=Surinam:
 G. Amsinek & Co. 1,000
 Thebaud Bros. 2,500 3,500

JAN. 18.—By the *Carthaginian*=Glasgow:
 Earle Brothers 3,300

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—DECEMBER.

Imports:	POUNDS.	VALUE.
India-rubber.....	4,783,679	\$2,252,340
Gutta-percha.....	5,468	19,861
Gutta-jelutong (Pontianak)....	214,455	5,581
	5,043,602	\$2,277,782
Exports:	POUNDS.	VALUE.
India-rubber.....	47,202	\$25,454
Reclaimed rubber.....	168,706	26,172
Rubber Scrap Imported.....	1,314,456	\$88,591

BOSTON ARRIVALS.

NOV. 29.—By the *New England*=Liverpool:
 Livesey & Co.—African..... 4,423

DEC. 2.—By the *Lydia*=Hamburg:
 Otto Meyer.—African..... 11,841

BOSTON—Continued.

DEC. 3.—By the *Sagmore*=Liverpool:
 George A. Alden & Co.—African..... 4,793
 Reimers & Co.—African..... 22,000
 Reimers & Co.—Caucho..... 11,433 38,226

DEC. 9.—By the *Cambrian King*=Antwerp:
 Otto Meyer.—African..... 3,082

DEC. 11.—By the *Turcoman*=Liverpool:
 Reimers & Co.—Caucho..... 3,574

DEC. 12.—By the *Kansas*=Liverpool:
 Livesey & Co.—African..... 12,387
 George A. Alden & Co.—African..... 220 12,607

DEC. 12.—By the *Philadelphian*=Liverpool:
 Robinson & Tallman.—Fine Pará..... 4,500
 Robinson & Tallman.—Coarse Pará..... 2,691 7,191

DEC. 17.—By the *Anglian*=London:
 Reimers & Co.—Erst Indian..... 14,611

DEC. 19.—By the *Lancastrian*=Liverpool:
 Reimers & Co.—Fine Pará..... 2,213
 Livesey & Co.—Centrals..... 563 2,781

DEC. 21.—By the *Vaderland*=Antwerp:
 Otto Meyer.—African..... 12,313

[Included in arrivals at New York, December 17.]

DEC. 22.—By the *Sachem*=Liverpool:
 Reimers & Co.—African..... 25,617

DEC. 26.—By the *Bostonian*=London:
 Reimers & Co.—African..... 46,796

DEC. 28.—By the *Sylvania*=Liverpool:
 George A. Alden & Co.—African..... 23,050

Total..... 207,112

[Value, \$104,633.]

GUTTA-PERCHA.

DEC. 7.—By the *Columbian*=London:
 George A. Alden & Co..... 8,212

DEC. 10.—By the *Livonian*=Glasgow:
 George A. Alden & Co. 1,003

Total..... 9,215

DECEMBER EXPORTS OF INDIA-RUBBER FROM PARA.
 IN KILOGRAMS. 1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co.....	44,304	7,730	57,289	—	109,323	225,930	21,080	54,240	—	301,250	410,573
Frank da Costa & Co.....	129,119	18,079	157,181	1,080	305,459	109,342	12,634	43,252	—	165,228	470,687
Adelbert H. Alden.....	152,521	44,607	108,275	1,103	306,506	106,200	8,460	17,920	9,360	141,940	448,446
Neale & Staats.....	—	—	8,000	—	8,000	78,524	10,926	7,254	2,618	99,322	107,322
Denis Crouan & Co.....	—	—	10,207	—	10,207	49,543	7,044	25,314	287	82,188	92,395
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	54,796	8,239	9,223	81	72,339	72,339
Kanback & Co.....	6,396	1,382	1,318	—	9,096	30,499	7,417	4,783	—	42,699	51,795
The Sears Pará Rubber Co....	14,545	2,500	30,711	1,047	48,803	—	—	—	—	—	48,803
Pires, Teixeira & Co.....	2,472	—	1,264	—	3,736	194	—	1,040	—	1,234	4,970
B. A. Antunes & Co.....	430	—	86	3,248	3,764	—	—	—	—	—	3,764
Direct from Manãos.....	642,741	172,526	154,286	72,118	1,041,671	539,461	184,247	77,265	30,351	831,324	1,572,995
Total for December.....	992,528	246,824	525,617	78,596	1,846,565	1,194,489	260,047	240,291	42,697	1,737,524	3,584,089
Total for January-June...	4,868,612	1,131,774	2,401,598	1,111,084	9,513,068	3,353,916	732,916	1,408,662	1,980,886	7,476,380	16,989,448
Total for July-December.	3,159,115	794,731	1,869,858	214,206	6,037,910	4,585,094	823,442	1,196,891	657,713	7,263,140	13,301,050
TOTAL, 1901.....	8,027,727	1,926,505	4,271,456	1,325,290	15,550,978	7,939,010	1,556,358	2,605,553	2,638,599	14,739,520	30,290,498

IMPORTS OF INDIA-RUBBER IN THE PRINCIPAL MARKETS.
 (IN KILOGRAMS.) REPORTED BY EMILE GRISAR, ANTWERP.

PORTS.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Liverpool.....	11,445,000	12,244,000	13,222,000	16,113,000	14,627,000	18,136,000	15,659,000	17,831,000
London.....	1,740,000	1,966,000	1,544,000	1,718,000	2,053,000	2,752,000	2,561,000	2,202,000
Havre.....	1,065,260	1,326,821	1,499,666	1,633,140	2,326,665	2,394,600	3,032,000	4,327,000
Bordeaux.....	—	—	—	20,142	11,914	19,430	105,613	121,213
Rotterdam.....	437,000	372,000	300,000	324,500	303,500	242,000	217,000	354,000
Antwerp.....	167,196	274,580	531,074	1,115,875	1,679,154	2,014,591	3,402,880	5,698,000
United States.....	15,706,000	14,252,000	15,858,000	13,833,000	17,421,000	18,470,000	22,674,000	20,468,000
Total.....	30,566,456	30,435,401	32,954,740	34,757,657	38,422,233	44,028,621	47,651,493	51,001,213



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TWO TYPES OF MANUFACTURERS.

THE wonderful growth of the rubber business sometimes prompts the question; Why is it that, instead of hundreds of factories scattered all over the Union, did not the pioneers keep ahead of the times, and so increase their plants that they could fill the increasing demands and thus keep the newer men out? There are many reasons, but the soundest, perhaps, is that the wisest manufacturers do not wish for too much business. There are those, of course, in every industry who seem to be in business simply to build great mills and market an enormous product. The safe man, however, chooses rather a smaller business, eliminating from time to time lines that are of less profit, declining risky accounts, simplifying his products, and bettering his goods so that, be they staple or special, his name will mean more and more a certain integrity that all come to recognize. He figures on the demand for his goods in the dull rather than in the "boom" years. He is sure to stay in business and get a fair amount of this world's goods for himself, while the aggressive, progressive "hustler" may strike it rich or may "come a cropper." Both types are necessary, and both will be ever with us. One creates, the other conserves. Together they form the sum total of industrial progress.

PRICES OF RUBBER AND THE DEMAND.

LOOK backward at the era of high prices for crude rubber that has just come to a somewhat sensational close develops the interesting fact that through it all the manufacturers were not only uniformly busy but new factories were successfully started, old ones enlarged, and a general prosperous condition prevailed. Looking forward to a twelvemonth, at least, of low prices, it is a significant fact that the belief that the good times will continue is not held because of the low price of crude material. As a matter of fact, the high or the low quotations have little effect upon the manufacturer or upon the volume of his business. It is the old, old story of the law of supply and demand.

Business promises to be good this year because other industries are flourishing. For example, the great companies who build mining machinery are full of orders. Part of the equipment that they use comes from the mechanical rubber trades, and be the crude material high or low the orders will come in just the same. And so it is in a hundred other industries, all of which contribute something to swell the vast sum total of manufactured rubber goods.

There will be, of course, among buyers those who will demand lower prices because of the present low price of crude, who will not understand that when the business is done on a large scale prices are based on average prices that cover long periods of time, nor will they appreciate that other materials as necessary as rubber are still high, and that the labor cost, the mechanical equipment, the hundred and one factory and selling expenses are in no way diminished. Rubber manufacturers have,

however, learned to appreciate this more and more, the result being that a drop in crude rubber no longer induces disastrous price cutting in rubber goods as it once did.

RUBBER AND D'ORDIARDI'S THEORY.

THERE appeared in *Pearson's* magazine for March an exceedingly interesting article on "The New Elixir of Life" discovered by Professor D'Ordiardi, a well known professor of electricity in a West of London hospital. It will be remembered that the learned professor, in conjunction with Professor Virchow, at the great medical congress in St. Petersburg, proved beyond all doubt that there was only one kind of disease and that was cell disease. It was then forecasted that the way to cure disease of cells and build new cells was to supply them with a vital force, presumably electricity. Professor D'Ordiardi has, therefore, invented various static machines for different sorts of cell building and has effected some marvelous cures. So much for this part of his work. The theory that he defines, however, to counteract the loss of electricity through sudden shock and unfortunate surroundings should be of interest to the rubber trade. Certain simple instruments that he has designed will show to the individual whether the office, countingroom, or bedroom is one that is so situated as to drain the electrical energy from whoever inhabits it. Once proved it is of course exceedingly easy to insulate a whole room or any of the furniture, or for that matter, the man himself. If Professor D'Ordiardi's theories be proved, there is no doubt that the use of chair tips of rubber, and of rubber soled shoes is a definite advantage. Indeed, it is quite possible that the time may come when not only chairs, but couches and beds will be set on blocks of rubber, and perhaps houses, office buildings, and hotels will have an insulating expert as one of the board of architects employed on the building. That there may be a definite need for something of this kind is wholly within the bounds of reason. The city and town dwellers to-day have such distinctively artificial surroundings, and there are such enormous wastes in the matter of nerve force, that it is time that science came to the aid of man, in not only measuring such wastes, but in counteracting them.

THE COST OF PLANTING RUBBER.

MANY inquiries are made as to the cost per acre of planting rubber trees, which work, to the uninitiated, doubtless seems a very simple matter. But it is evident, from the printed reports of some of the large plantation companies, that the mere setting out of the young seedlings must represent but a small part of the work necessary in forming a plantation on land just reclaimed from the native forest. Before there can be any planting must come the establishment of a community of laborers—which does not, of course, exist in a forest covered region. The work of clearing is no small matter, and this is followed by the planting, continued probably through several years, with simultaneous care of the trees already set out. It seems to be the part of economy to produce on the plantation, as far as possible, crops necessary for the subsistence of the

men and animals employed, and not a few companies are engaged also in the cultivation of "side crops" for market, such as will yield an income while the rubber trees are reaching a productive age.

On one plantation in Mexico, a report on which has reached us, although the greater part of the projected rubber planting remains to be done, a village has grown up, with a population varying from 250 to 500, a municipality has been organized and a postoffice established. There is a company store, carrying a stock of goods valued at \$10,000 Mexican; a meat market, blacksmith shop, laundry, saw mill, brick-making plant, and lime kiln; and also a school for the children on the plantation and a salaried plantation physician. There is even a police force—paid for, like everything else mentioned above, by the company. It is only by making an outlay for these various purposes that a supply of labor can be insured for the coming years of development which must precede the first yield of cultivated rubber from this plantation. There must be labor for constructing buildings, laying out roads, building numerous small bridges, and for planting the various quick producing crops—all of which work is carried on while other laborers are clearing land, making rubber nurseries, and transplanting rubber seedlings and caring for them for the first few years. Moreover, some outlay is often necessary for creating means of transportation to the nearest railway or seaport.

Of course the plantation referred to is one of the larger enterprises of this class in Mexico; but even on the small private plantations the owner does not calculate to plant or live by rubber alone. There are, on the small as well as the large estates, many items of outlay beyond the mere setting out of rubber trees, so that the prospective planter who confines his estimates to this one feature alone will likely be doomed to early disappointment. All of which would indicate that the question so often heard, as to the cost per acre of "planting rubber," is much easier asked than answered.

"KINDLY INFORM ME WHO MAKES RUBBER IN MY VICINITY," asks an ingenuous correspondent. The maker of rubber is the same intelligence as He who makes corn, wheat, and cotton; in other words, the Creator. Rubber is a natural product, and no man has as yet been able to *make* it, or even successfully counterfeit it. The form in which the query is put indicates a lack of knowledge of even the rudiments of rubber manufacture, and as it comes from a source that presupposes such knowledge it merits this answer.

THE LIFE STORY OF THE JAPANESE PIONEER in the manufacture of insulated wire, Mr. Zenpachi Fujikura, that appears in another column, is worth more than passing notice. A change of name and locality would make it the biography of the best type of self made American. Energy, ambition, honesty, ability, and rare charity, all are shown in the simple story. Mr. Fujikura was a credit to the great industry in which he spent the best years of his life.

APROPOS OF A CRUDE RUBBER TRUST, the very place to organize one ought to be up the Congo river—at the very starting point of rubber production, and beyond the reach of laws to compel "publicity." The London *Daily Mail* reports that the Belgian trading companies on the Kassai, whose competition has raised the buying prices considerably, have formed a trust to keep the prices down.

THE FEBRUARY WEATHER couldn't have been better for selling "rubbers" if the manufacturers had had the ordering of it.

GUTTA-PERCHA IN THE PHILIPPINES.

A COLLECTION of nineteen samples of Gutta-percha and India-rubber gathered in the Philippine islands has been received by THE INDIA RUBBER WORLD from the Forestry bureau at Manila, and submitted to an examination to determine their merit. This collection is not to be considered as truly representative of the resources of the Philippines in the way of the two commodities named; they are merely such specimens of these products as have happened to reach the Forestry bureau, without a complete examination of the forests of the archipelago, and gathered for the most part by persons unfamiliar with the proper preparation of these gums. None of the gums in this collection is of high value; they are of interest mainly in that their existence in the Philippines marks that region as being within the "rubber zone," which indicates the possibility that better grades of Gutta-percha and India-rubber may be discovered as the result of a more careful examination.

A large proportion of the samples are of Gutta-percha or Gutta like gums. The following four—to quote the numbers and labels borne by the specimens—are resinous gums of doubtful value:

No. 4. [Label indecipherable.]

No. 6. Goma de Balete. *Ficus concinna*. [Balete is a port on the east coast of the island of Mindanao.]

No. 18. Goma de Zamboanga. [From the southwestern part of Mindanao.]

No. 19. Gutta-percha. *Palaquium calapia*.

The words in italics in the above and following labels designate botanical terms.

No. 9. Baliti goma, Zamboanga. [There is a Point Baliti on the Island of Mindoro, but Zamboanga is in Mindanao.]

An exceedingly sticky gum, which might possibly be valuable in frictions, but of which the sample is not large enough to give a more definite idea.

No. 2. Gutta-percha. *Palaquium Luzoniensis* (Vidal.) "Calapice blanco."

Good only for a mixture or adulterant with better grades of Gutta-percha.

No. 7. Goma de Ditá. *Alstonia scholaris*.

Of use only for mixing with Padang Gutta.

No. 1. Gutta percha. *Palaquium latifolium*.

No. 16. Gutta-percha. *Palaquium* (?) Mercado de Cotobato. [From a merchant of Cotobato, in Mindanao.]

Very similar to fair grades of Manila Gutta. No. 16 might be worth 10 or 12 cents a pound.

No. 10. Goma del Balete. *Ficus superbus*.

No. 23. Gutta-percha. Maestra de Gacuvan.

Exceedingly cheap grades of Gutta-percha. Worth perhaps as much as No. 16.

No. 17. Goma del mercado de Cotabato.

Rather dirty and carelessly prepared; might be worth 9 cents a pound.

No. 5. Goma de Antipolo. *Artocarpus incisa*. [Antipolo is on the island of Luzon, not far from Manila.]

Similar to Niger Gutta.

No. 3. Goma elastica. *Ficus elastica*.

Rubber like a cheap grade of Borneo, and worth about 12 cents a pound. The ascription of this sample to *Ficus elastica*, by the way, should not be accepted without further proof that *Ficus elastica*—the rubber tree of Assam—really exists in the Philippines.

No. 21. Goma de Ficus. Zamboanga.

A Tuno like gum, worth perhaps, 5 cents.

No. —. Gutta-percha. Negros. [From the island of this name.]

The best sample in the lot. Like Padang Gutta-percha, ex-

cept that it is "off color." Worth about 65 cents a pound. The remaining three specimens call for no special mention.

A more encouraging view of the situation is afforded by the information in regard to the actual collection of Gutta-percha in the Philippines, already printed from time to time in THE INDIA RUBBER WORLD. It may be added that the first government statistics under this head are at hand, reporting the collection of export duties, beginning July 1, 1901, on two items of forest products as follows:

		Gutta-percha.	India-rubber.
July - - - -	pounds	- - - -	28,750
August - - - -	- - - -	46,911	19,408

It is not probable that so much rubber was actually exported, for some of the traders use the terms "India-rubber" and "Gutta-percha" indiscriminately.

The United States Philippine Commission, in session at Cotabato on April 2, 1901, questioned a Moro dato named Piang—an important local personage—when he stated that all his people collected "rubber," that the number of trees was very great, and that since the commercial value of "rubber" had become known, the people take care to preserve them, instead of cutting them down. He said that his people in five months gathered 800 piculs [=106,666 $\frac{2}{3}$ pounds] of rubber, which he sold to the Chinese at \$50 Mexican per picul [=18 $\frac{3}{4}$ cents gold per pound], which would amount to \$2000 gold. Piang had in hand at the time 80 piculs [10,666 $\frac{2}{3}$ pounds] which he offered to give to the United States for the new Pacific cable.

On the same day of the Capitan of Chinos (the captain of Chinese) at Cotabato appeared before the commissioners and testified that during January and February the Chinese had sent out between 500 and 600 piculs of Gutta-percha. He had paid the natives \$45 to \$50 Mexican per picul [=16.9 cents to 18 $\frac{3}{4}$ cents gold per pound], selling the Gutta at Jolo at prices equivalent to 22 $\frac{1}{2}$ cents gold per pound, and at Singapore at 30 to 32 cents. He estimated his profits at 3 to 8 cents per pound, after paying freights and other expenses. All of which would suggest the presence in the Philippines of Gutta-percha of higher values than the preliminary collection of samples sent out from Manila.

ENGLISH CABLE COMPANIES TO COMBINE.

AT the ordinary general meeting of W. T. Henley's Telegraph Works Co., Limited (London), on February 20, the report of the board was adopted, recommending a dividend for the year of 20 per cent. on the ordinary shares, after providing for the usual 4 $\frac{1}{2}$ per cent. dividend on the preference shares, and 4 $\frac{1}{2}$ per cent. interest on the debentures. There are £175,000 in preference shares and the same amount in ordinary, and the debentures amount to £50,000. The dividend on the ordinary shares for five years preceding was 10, 12, 14, 15, and 20 per cent., respectively.

The directors announce in a circular issued to the shareholders that terms have been arranged by which the company will amalgamate with Callender's Cable and Construction Co., Limited (London). The capital of this company consists of £150,000 in ordinary shares—on which 15 per cent. has been paid for two or three years past—and £200,000 in 5 per cent. cumulative preference shares; and there are £90,000 in 4 $\frac{1}{2}$ per cent. debentures.

THE report of the directors of the Liverpool Rubber Co., Limited, for the past year shows that the profits on the year's working were £12,178 4s. 9d.

MR. JAMES B. DILL.

IT is only fair that the rubber trade should have full credit for having brought out the first up-to-date "Roosevelt" corporation charter—that is, a "publicity" charter such as



President Roosevelt recommended in a recent message to Congress. The newspapers of the country have done full justice to this most important forward step. THE INDIA RUBBER WORLD has a record of nearly one hundred of the leading daily journals that editorially and in their news columns have been unstinting in their praise, and

whatever procedure the press of the country as a whole commands is pretty sure to become general. It was with this idea in mind that the Editor of THE INDIA RUBBER WORLD set out to interview the author of this historic charter, Mr. James B. Dill. In spite of the fact that he is perhaps the most prominent corporation counsel in the United States, and the man to whom Andrew Carnegie is said to have paid \$5000 for an opinion that was expressed in a single word, he was not a hard man to reach. He, however, refused absolutely to be interviewed, as he had made a rule two years ago never to give another interview. But he was so full of life and interest in the world's corporation work that he could not keep from talking. In response to his caller's opinion that his new type of charter was a brilliant move, he said:

"I don't like that word 'brilliant'; common sense is what I call it, and what it is, and the others are all to come to it shortly." Mr. Dill, in the course of a further chat, admitted that early in March he was to deliver an address at Harvard University on national legislation as opposed to state legislation, taking the new rubber company's charter as a text.

RUBBER SHOE TRADE IN HONGKONG.

ACCORDING to the United States consul general at Hongkong, Mr. W. A. Rublee, the Chinese are not large consumers of such manufactured goods as are in demand in most other markets. The sale of most kinds of manufactured goods in that country is confined to a small number of resident Europeans and Americans. To secure any large amount of Chinese trade, it would be necessary for manufacturers to cater to the tastes and wants of the Chinese people. There are two classes of imported goods, however, which find a ready sale in the Hongkong district—cotton socks and rubber shoes.

"There has been a growing demand for both these articles in recent years, and they are coming to be regarded as necessities. The poorer classes in southern China have in the past worn nothing on their feet and most of them still go barefooted. There is, however, an increasing tendency to wear cotton socks and rubber shoes, which is likely to cause a large demand for both articles in the future. They are now supplied

by English and German manufacturers, principally the latter.

"The rubber shoes sold in Southern China are similar to those manufactured in the United States, except that they are slightly heavier and are shaped like a native shoe. They are worn without stockings, are of comparatively recent introduction, but are likely to come into general use. They are made in Germany mostly, though some come from England. The cheapest variety costs about \$1 Mexican (45 cents gold) per pair at retail, while the best quality sells for about \$1.50 Mexican (67 cents)."

It may be added that government statistics show the export, direct, from the the United States to Hongkong of the following number of pairs of rubber shoes in the various fiscal years:

1891.....	72	1895.....	156	1899.....	....
1892... ..	84	1896.....	1,548	1900.....	708
1893.....	58	1897.....	26,822	1901.....	1,634
1894... ..	372	1898... ..	400		

The value of such exports in 1897 was \$11,995.

RUBBER SHOE MAKING IN GERMANY.

THE *Schuhmarkt* (Frankfort-on-Main) reports a favorable condition of the German rubber shoe industry during 1901, although snow was late in appearing in the winter of 1900-01. The facilities of the Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, are spoken of as being capable of supplying well-nigh the whole German demand for rubber footwear, though the home manufacture in this line is handicapped by the ease with which, owing to low import duties, the American and Russian products gain access to the markets of Germany and Austria-Hungary. It is pointed out as a mistaken idea, on the part of the public, to call for low priced rubber shoes—since these of necessity must be light in weight and lacking in durability. The rubber soled canvas shoes made by the Harburg-Vienna factories are said to be coming rapidly into wider use, for gymnasium, sporting, and beach wear. These shoes have been worn extensively in England for two years past, not only for the purpose above stated, but also by persons of small means as an ordinary walking shoe, being the cheapest possible footwear, and combining the qualities of excluding dampness and affording proper ventilation to the foot. The same factories did a large business during the past summer in their "Universal Plimsoll" canvas shoe, the facilities for making which have been enlarged in anticipation of a still larger demand in future.

The figures which follow, from official sources, show the quantities (in kilograms) of rubber boots and shoes imported into, and exported from Germany, during the past two years, together with the countries with which the trading was done:

IMPORTS.		
	1900.	1901.
Great Britain.....	39,800	28,200
Austria-Hungary.....	93,000	28,600
Russia.....	450,100	532,700
Sweden.....	—	51,000
United States.....	38,100	55,800
Other lands.....	16,900	10,800
Total.....	637,900	707,100
Value.....marks	3,668,000	4,066,000
EXPORTS.		
	1900.	1901.
Belgium.....	18,700	9,500
Denmark... ..	19,000	9,600
France.....	16,800	16,500
Great Britain.....	151,000	125,400
Holland... ..	10,400	—
Switzerland... ..	6,400	—
Other lands.....	64,900	56,500
Total.....	287,200	217,500
Value.....marks	1,580,000	1,196,000

THE USE OF RUBBER ON BRITISH RAILWAYS.

By an Occasional Correspondent.

SOME time ago* the writer gave an account in these pages of the rubber requirements of British railways, treating the subject in its general aspects. It is now proposed to refer to the subject again, with rather more attention to detail on one or two points, the importance of the issues involved to those who are most closely concerned seeming to warrant this recurrence to matters which have certainly not been exhaustively treated of in our trade literature.

Commencing first with the locomotive, reference may be made to the fact that practically no rubber is used by our locomotive engineers. Rubber packings for piston rods, etc., have been almost universally replaced by asbestos cord, and the rubber buffer spring has in like way been superseded by the volute steel spring in the great majority of cases. In certain cases, but more for engines used only for shunting purposes, the Eames non-automatic vacuum brake, an American invention, is in use, and this necessitates the use of rubber diaphragms. In this connection it may be said, on the authority of a locomotive engineer, that the diaphragms which have been supplied from America, with the rest of the brake fittings, have failed to give satisfaction under the somewhat trying conditions of use. I understand that these diaphragms are now being supplied by English makers, and are found to last longer before necessity arises for their renewal. This statement is given for what it is worth; it may easily be that engineers in a similar position to my informant may have had different experiences.

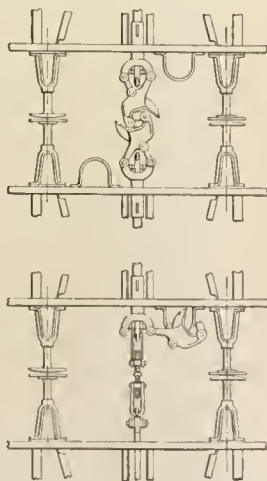
Although, with regard to the use of rubber buffer springs, it cannot be said that a rapid decline is apparent, there can be little doubt that the business has seen its best days, though until the central coupling system becomes more generally adopted, a demand for rubber will exist. At present the central coupling is almost entirely confined to what are known as twin trains, which are run on the suburban services of our large towns and which run backwards and forwards without any uncoupling. Certainly its adoption in main line traffic is to be seen with respect to the corridor coaches of the through trains of the Great Central railway, and it is permissible to expect that this form of coupling will see further development in Great Britain, because there is a growing tendency to adopt American methods on our railways—a matter to which a further specific reference will now be made.

This, for us, new procedure is the employment of larger coal and goods wagons on our railway systems. Not that any real progress in this way has to be recorded, for the move is but in an embryonic condition; still, even at this stage, it seems to merit attention here because of the prospective increased de-

mand for rubber air brake tubes. In the Sheffield & Twinberrow patent coal wagon, which is now being built to the order of the North Eastern railway, 35 tons of coal are carried as against 10 tons in the ordinary wagons, but without going into further detail, which would be somewhat remote from the scope of this article, the advantages of the new departure are that the engine has to haul less dead weight in proportion to the amount of freight carried than is now the general rule. Should these wagons come into extensive use, there can be no doubt of the increased demand for rubber pipes for either the Westinghouse or vacuum brakes, unless the decision to adopt continuous brakes should be reversed, a contingency which hardly seems likely. With regard to the use of Westinghouse pipes, bare or having a canvas sleeve, the general rule is to adopt the sleeve, and one large railway company which gave up this appendage as useless has again reverted to its use. It certainly seems desirable to have some protective covering corresponding to the hemp covering universally used on the vacuum brake pipes, more especially in the case of those railways which exact a five or six years' guarantee. It must be remembered that these pipes are continually under pressure, amounting in the case of express trains to 70 or 80 pounds, and in slow trains to 50 or 60 pounds on the square inch. Where the sleeve is not used, it is found that the usual seat of disaster is just by the nipple, and it is easy to understand that this should be so, seeing that this is the spot which experiences the rough and greasy touch of the shunter's hand.

There is nothing new to report on the subject of the rubber pipes used for steam heating in trains; the rubber continues as of old to excite the wrath of railway engineers, because it does not retain perennial youth under the trying circumstances to which it is subjected. Although metallic tubing does not seem to have made any converts for this purpose, it is being regularly used on the Lancashire and Yorkshire railway for the feed pipe between tender and engine, and it would certainly seem to be of more utility than rubber in those cases where liquid fuel is used.

On more than one occasion reference has been made in this journal to the tender forms for rubber goods issued to rubber manufacturers yearly by the railway companies of the United Kingdom, and comment has been made upon the stipulations sought to be enforced therein. In no case, however, do our home railways give minute specification of detail, such as is to be found in the specification forms for India-rubber fittings given out on behalf of various Indian and colonial railways by their resident London engineers. One such engineer in large practice is Sir Alexander Rendel, and from his offices and worded presumably under his immediate supervision, go forth yearly tender forms for the various stores required by the railways over which he has control. Of course we are here concerned only with rubber goods, but it may be mentioned that all the specifications issued from these offices contain similar instructions as to matters of detail and which, in the opinion of a number of contractors, far exceed the conditions which ought legitimately to be imposed. It is said that though there is always a good deal of grumbling among contractors at having to conform to Sir A. Rendel's specifications, yet there is no lack of applicants for the work. If this is really so, it certainly does not seem fair to attempt to shuffle out of responsibilities



CENTRAL CAR COUPLING.

1. Showing position when two cars are fitted with the American Coupling and brought together.
2. Showing position when the car with the coupler is to be connected with a car with the present style of British Coupler.

undertaken if they have been incurred with full knowledge of the facts. It may not be without interest to enlarge upon the subject of the rubber specifications, representing as they do the extremest length to which any buyer has as yet imposed restrictions on the rubber manufactures.

The vulcanized rubber is to be manufactured from fresh, well-washed, new rubber of the best class, compounded with sulphur and mineral matter, the class of rubber and the kind of mineral matter to be mentioned by the contractor. No previously vulcanized rubber scrap, or crumb rubber, charcoal, lamp-black, cork, rubber substitute, or any organic substances other than new rubber are to be used in carrying out the contract. The India-rubber exclusive of sulphur is in no case to be less than 48 per cent. of the finished rubber; the vulcanizing sulphur is not to be less than 2 or more than 4.5 per cent. of the finished rubber. The mineral matter and sulphur combined is not to exceed 52 per cent. by weight of the finished rubber, and is to consist of not more than three different substances to be named in the tender, no one of which is to be present in less quantity than 8 per cent. On boiling rubber finely rasped from the finished article, for six hours in 6 per cent. alcoholic soda, the loss must not exceed 12 per cent. calculated on the organic matter only, and similarly on boiling for six hours in absolute alcohol the loss must not exceed 5 per cent. calculated on the organic matter only. In both cases the alcoholic extract must contain sulphur and India-rubber resins only. The vulcanization of the rubber is to be effected directly by means of pure sulphur and not by any compound of sulphur.

It will be acknowledged that strict attention on the part of the contractor to the above details does not leave much room for the application of those mysteries or trade secrets which are supposed, though on a slender basis of fact, to form part of the good will and fixtures of any rubber factory. The specification is not merely a matter of form, for inspectors are engaged to superintend the manufacture and to make the specified mechanical tests, as well as to take samples for chemical analysis. It is not proposed on the present occasion, even if consideration of space were not all powerful, to discuss the specification or to point out spots of inherent weakness; it will be enough to bring its existence to the knowledge of American manufacturers, and if this has the result of eliciting some expressions of opinion as to the advisability of putting so much restriction upon the trade, some good purpose will undoubtedly have been served. The writer is not aware of any complaints having been lodged against contractors for using any other rubber than that specified, and although the term "Pará" has a somewhat wide connotation now-a-days, it will be noticed that the use of Pará rubber is not compulsory, and rubber of the best class is a term that admits of various readings, according to the ideas of individual manufacturers. If, for instance, you state that you will use Pará rubber only, and this is understood to include negroheads, it would be rather difficult for the chemical examiner, let alone the inspector, who is usually a young engineer, to certify that a violation of the treaty had occurred if the best quality of African rubber was used to some extent. Of course the object of the extraction tests with alcoholic soda is to detect the use of resinous rubbers, but as high class Africans are now obtainable with a very low content of resin, it appears that the chemical tests at the disposal of the Westminster engineers are insufficient to enable them to lay down for rubber such stringent regulations as in the case of metals and alloys, any deviation from the specifications of which are easily and accurately detected by analysis. There is this to be said for these Westminster specifications: the time for which a guarantee is required to be given is $3\frac{1}{2}$ years, and

not five or six years, which some of our principal railways imagine should be cheerfully given by rubber manufacturers. It seems to me, and no doubt I am not alone in this opinion, that $3\frac{1}{2}$ years is quite enough, when one has practically no means of ascertaining whether the goods have been subjected to specially adverse conditions or not, in cases where complaints as to defects arise. It would place the average inspector under these contracts in a somewhat awkward position if all the clauses of the "general conditions of contract" were duly observed.

Thus it is laid down that the contractor shall before proceeding to execute any work submit for the approval of the engineer the way in which he proposes to execute each portion of it. This sounds like the reprint from some stereotyped metallurgical contract form, and, as far as my knowledge of the inspecting engineer goes, it had better be honored in the breach in the case of rubber goods, otherwise the said engineers might easily be the victims of practical joking. Not so long ago this subject of inspection by the buyers' engineer was treated in a satirical vein in this journal, and perhaps it may be news to many readers to hear how far it has attained in Great Britain.

* * *

THE INDIA RUBBER WORLD has at hand copies of specifications for India-rubber stores required by several British railway companies, and the conditions under which tenders are invited. From these have been compiled the details below, as indicating the items of rubber manufactures which find use in railroading. Only one of these documents specifies the quantities required for twelve months—the Great Northern Railway Co. (Ireland)—whose requirements, relatively, would not be large. The details are condensed herewith:

- 8 gross Springs, Spencer's patent.
- 1 gross " " " " Iron, imbedded.
- 224 pounds Strips, rectangular, $5" \times \frac{3}{4}"$ and $4" \times 1"$.
- 144 pounds Rests for carriage windows.
- 300 pounds Carriage body blocks, $8" \times 4" \times 1"$.
- 15 gross Washers, for vacuum brake couplings, etc.
- 254 pounds Sheet, various thicknesses.
- 60 pounds Washers for gauge glasses.
- 2 gross Regulator rings.
- $\frac{1}{2}$ gross Buffers for patent door steps.
- $\frac{1}{2}$ gross Door stops.
- 10 gross Joint rings, 15", 18", and 21".
- 1500 feet Hose for gas, wired, $\frac{3}{8}"$ to $\frac{3}{4}"$.
- 1020 feet Feed pipe, wired, 4 ply, $\frac{3}{4}"$ to $2\frac{1}{2}"$ bore.
- 2112 feet Wash-out pipes, 4 ply, $\frac{1}{2}"$ to $2\frac{1}{2}"$.
- 700 feet Tube for water, 3 and 4 ply, $\frac{1}{2}"$ to $2\frac{1}{2}"$.
- 100 feet Tube glazed for gas, $\frac{1}{2}"$ outside diameter.
- 50 pounds Solution.
- 336 pounds Tires for truck wheels.
- 2000 feet Belting, 3 to 8 ply, $1\frac{3}{4}"$ to 8" wide.
- 18 gross Rings for cylinders, 15" to 21".
- 15 gross Rod packing rings for auto-brakes.
- 12 gross Vacuum brake hose pipe connections.
- 2 gross Drip balls.
- 3000 yards Roofing Cloth, Jeffrey's patent.
- 2 dozen Miniature sacks for horse boxes.
- 4 dozen Diaphragms, 18".
- 6 dozen sheets Vulcanized fiber flexible sheeting.
- pounds Loco packing.

The specification sheet from the Great Northern Railway of England comprises 107 items under the heading "India-rubber," embracing the following, which do not appear in the preceding list:

- | | |
|----------------------------------|------------------------------|
| Hose pipes for vacuum brakes. | Cones for water closets. |
| Hose pipes for steam heating. | Dust shields for axle boxes. |
| Hose pipes, Westinghouse brakes. | Knee aprons. |
| Sleeves for the same. | Lamp head stops. |
| Water crane pipes. | Oilskin suits. |
| Hydraulic tubing. | Sheet—for squeegees, etc. |
| Draught tubing. | Stair nosing. |
| Pyramid mats. | Vestibule wind guard covers. |
| Balls. | Water bottle washers. |
| Cement. | Asbestos sheeting. |

THE SOUTH AMERICAN RUBBER FIELDS.

RUBBER OUTPUT OF THE AMAZON VALLEY.

IN a report to his government the United States consul at Pará, Mr. K. K. Kenneday, under date of December 27, wrote that the unusually large receipts of rubber up to that period had been made the basis for many calculations concerning the total output of rubber from the Amazon valley for the crop year, and its effect upon the commercial future of Pará. The largest rubber buyers and exporters were still chary of expressing opinions as to the season's crop, and were conservative in their dealings. Some held that the bulk of the crop had already been marketed, and that the months of January, February, and March, when the heaviest shipments are usually received, would show a very large deficit.

"On the other hand," writes the consul, "information recently received shows a diametrically opposite state of affairs. Business was good in the previous year [1900-01], exchange low, and credits easy. The *aviadores* and laborers indulged in many luxuries; they bought better food than usual, and treated themselves to watches, jewelry, and expensive clothing. The end of the season found the crisis at hand, exchange rising rapidly, the gatherers deeply in debt, and the price of rubber reduced 20 per cent. This year they are making a desperate effort to pay off this indebtedness and make a fresh start. They are getting a large proportion of their food from the streams and forests by hunting and fishing; they are purchasing only absolute necessities; and are working overtime to increase the crop and liquidate their bills.

"It is reported that there are now on the way down the river, from the upper tributaries of the Amazon, about 700 tons more rubber than has ever before been shipped from that section in one season, and there are at least 200 tons more to follow. About thirty small steamers and launches have left this port and Manáos for the Acre, Juruá, Purus, and Beni rivers, and are due to return here in February. It is not to be supposed that they will come back empty. Altogether, there is reason to believe that this season's rubber crop will exceed that of last year by a very considerable margin."

Consul Kenneday refers to the final adjudication of the boundary dispute between Bolivia, Peru, and Brazil, with the formal relinquishment of the thousands of square miles of land involved to the two first-mentioned countries, which he says may mark the beginning of a new era in this part of South America.

"The territory under dispute, with the adjacent regions in the Andes mountains, is said to be very rich, and Americans should not permit the people of any other nation to anticipate them in the exploitation of this field. The cession of this land will deprive the Brazilian state of Amazonas of a large portion of the revenue which it derived from export duties on rubber, as much of the rubber from the Acre, Purus, Javary, and other rivers embraced in the territory ceded to Bolivia has hitherto passed through the Manáos custom house, but will now pay toll to Bolivia. On the other hand, Pará will profit indirectly by the new conditions, as all cargoes entering and leaving the Amazon pass through this port."

DEVELOPMENT IN BOLIVIA.

CONSUL KENNEDAY transmits with the report above quoted a statement made to him by Señor Florian Zambrano, high commissioner and financial agent of the Bolivian government, in which it is stated:

The rivers which the treaty with Brazil now incorporates into Bolivia are the Acre and Yacu and their affluents; the upper Purus and upper Juruá and their affluents (the Enviri, Tarahauca, Mua, Gregorio, etc.) Up to the present time, Bolivia's occupation of this territory has been confined to the Acre and its affluents, where the custom house of Puerto Alonso is established. The rubber exported from the Acre and its affluents alone reaches 3500 tons per annum. The total export of rubber from the other rivers just named amounts to another 5000 tons per annum, and is increasing yearly. This rubber is of the first quality, and is sold in European markets at the same price as, and under the name of, fine Pará rubber.

Señor Zambrano states that Bolivia has decided to subsidize a line of foreign steamers to ply between Europe and Pará, incoming cargoes to be transferred at Pará and sent to the Acre in smaller steamers of the same company. No contract exists as yet for this purpose and the government is disposed to accept the best proposal that may be presented. Another important work in prospect, and for which plans are said to have been made and the cost estimated, is the construction of a railway from the river Acre to the Beni or Madre de Dios, which would give an outlet for the rich rubber fields of the latter streams to the Amazon, independent of the badly obstructed Madeira, the high freight charges on which were referred to in the last INDIA RUBBER WORLD.

The government of Bolivia grants large tracts of uncultivated land to capitalists who intend to colonize her territories; admits free of duty and other taxes all machinery, factories, tools, agricultural implements, etc., and protects and guarantees the personal safety, work, and property of all foreigners. There is said to be not a single instance of a diplomatic claim against Bolivia on account of damage, violence, or injury to foreign subjects. The rich mineral resources of the country, no less than rubber, are expected to attract outside capital, besides which the climate is salubrious, and the soil favorable for the production of food staples. It is only the neglect of natural advantages that has led to the scarcity and high cost of subsistence on the Beni, lately commented on in this journal.

During the year ended July 1, 1900, the government of Bolivia granted new concessions for working rubber as follows:

Department of La Paz.....	7264 estradas.
Department of Santa Cruz.....	9590 "
Department of Cochamba.....	500 "
Total.....	17,354 "

Since each *estrada* is supposed to embrace 150 rubber trees, these concessions would account for 2,603,100 trees brought under private control within a year. It is understood, however, that many small rubber properties in Bolivia are for sale, due probably to a lack of working capital on the part of the *cessionnaires*, while perhaps some of them have been located only with a view to selling them.

A statement has reached THE INDIA RUBBER WORLD that the following amounts of rubber paid export duties (15 per cent. *ad valorem*) at the Bolivian custom house in the Acre river district—lately in dispute between Bolivia and Brazil—between January 29 and April 16, 1901, and were shipped via Pará:

	Pounds.
Goma elastica (fine rubber).....	2,954,879
Sernamby (coarse rubber).....	328,275
Caucho.....	13,728
Total.....	3,296,882

THE RUBBER PLANTING INTEREST.

PRIVATE RUBBER PLANTATIONS IN MEXICO.

A VISITOR to Mexico last summer made some notes in relation to private rubber planting which he has been good enough to forward to THE INDIA RUBBER WORLD.

As an illustration of their nature, the facts which he compiled in one "colony" in Vera Cruz are summarized here. His list embraces eighteen planters who have planted more or less rubber—some devoting their attention to rubber alone, and others making it a subordinate interest. Three of these planters have been established in Mexico since 1896, eleven since 1897, and four since 1898—making their average length of residence four years, up to last summer. As a rule, each has planted some rubber annually since the first year. The total holdings of land by the the eighteen planters are given at 6907 acres—an average of 383.7 acres each. The total number of rubber trees planted, not including what may have been set out in the summer of 1901, was 372,000—an average of 20,666 trees per planter. The number of trees per acre varies, but assuming an average of 300, gives an aggregate of 1240 acres, or an average of 68.8 acres in rubber for each plantation. Additional planting was in prospect, for the 1901 season, of 32,500 trees. The various planters gave their former residences as follows, some of them still retaining homes in the states and cities named:

Maine 1	Chicago 1	Louisiana 1
New Hampshire. 3	Maryland 1	Texas 1
Rhode Island . . 1	Missouri 2	Newfoundland . . 1
New York 2	California . . . 3	Not stated 1

Our informant prefers not to give, for publication, the names of the several planters, with the extent of their work, for the reason that his information was not, in every instance, derived from first hands, and he might in some cases have underestimated the amount of planting done. These estimates do not embrace the planting done by any of the large companies that have offered stock to the public.

TABASCO AGRICULTURAL CO.

[Plantation "Tacotalpa," state of Tabasco, Mexico. Office: No. 208 Parrott building, San Francisco, California.]

A NEW company, incorporated in California, to develop a tract of about 15,000 acres, at Tacotalpa, in the district of the same name, in Tabasco, Mexico. Capital stock, \$100,000. Officers: General *R. H. Warfield*, proprietor California Hotel (San Francisco), bank director, etc., president; *Joseph Naph-tally*, lawyer and capitalist, vice-president; *J. Dalzell Brown*, manager of a trust company, treasurer; Colonel *J. F. Burgin*, a railway official, secretary—all of San Francisco. *Frederich H. Colburn* is assistant secretary and general manager at the office above named, having been formerly in the lumber export trade in Mexico. George B. Ingram, resident director on the plantation, and James Carter, superintendent, have each spent several years in Mexico, engaged in business which gave them an opportunity to become acquainted with tropical planting. For the first development work 2200 acres have been selected, of which it is planned to plant 1600 acres in rubber—not less than 300 trees to the acre; 400 acres in cacao; a few acres in vanilla and the remainder in corn and other crops giving quick returns. To provide the necessary funds, 2000 "plantation shares" are offered for sale, at \$240 each, payable in instalments within five years, these not being shares of stock, but representing the right of the purchaser to share in the profits

of the plantation to the extent represented by his holding of certificates. Part of the Tacotalpa plantation had been developed before being acquired by the new company, and embraces 5000 cultivated rubber trees 5 years old and 5000 younger ones, with some bearing cacao trees, etc., from which sources and from "short crops" it is expected to pay dividends before the new planting of rubber will become productive. These details are derived from the company's prospectus. THE INDIA RUBBER WORLD has already quoted from a report by Mr. Colburn, named above, on rubber planting in Mexico, before the formation of this company.

MEXICAN PLANTATION CO. (PHILADELPHIA.)

[Plantation "Philadelphia," department of Palenque, state of Chiapas. Offices: No. 725 Drexel building, Philadelphia.]

THE second annual "inspection" of this plantation was made by the Rev. Dr. Charles C. Lasby, a Brooklyn pastor, chosen by the stockholders as their representative, and sent to Mexico at the company's expense. His report has been printed in a pamphlet of 39 pages, embellished with photographic views of the plantation, but what he writes has to do more with "the rapture of recollection in the traveler" than with practical information for the investors who remained at home. With regard to rubber, Dr. Lasby states that 900 acres have been staked and planted (in the open), at the rate of 315 trees per acre, which will yield, at the end of seven years, an average of 3½ pounds of dry rubber, worth 40 cents a pound on the estate. This yield will be "nearly doubled" at the end of "five or six years," when "the market value is apt to be much higher." Without knowing Dr. Lasby's qualifications as a prophet, it is difficult to gage the value of his report. It would be interesting to know whether he would have prophesied the same results, standing on the Brooklyn bridge at midnight, that he foresaw while the white heron and aigrets encircled him in their graceful flight along the rio Michol. On some other points of present interest Dr. Lasby is more definite. He reports that last year's tobacco crop was sold for \$4500; that the product of 700 acres of corn is being sold as required by the labor on the plantation; and 37 acres in pineapples are expected to come into bearing this year—which "side crops" provide for dividends on the company's investment shares pending the development of the rubber trees. All the company's shares are reported to have been subscribed for and apparently much development work has been done.

BOSTON TROPICAL CO.

[Plantation near the "Dos Rios" properties, slate of Oaxaca, Mexico. Offices: No. 161 Summer street, Boston, Massachusetts.]

INCORPORATED September 30, 1901, under Rhode Island laws; capital, \$300,000. Have purchased 2500 acres from Harry W. Barclay (a Newark, New Jersey, man), who owned the property seven years and will be the manager in Mexico. Land cost \$50,000; coffee and rubber stock and improvements cost \$25,000; the company have \$35,000 in cash. These assets and whatever improvements may hereafter be made have been deeded to the Manufacturers' Trust Co. (Providence, R. I.) to secure an issue of 6 per cent. first mortgage improvement development bonds, of \$500 each, offered for sale and to be paid for in yearly instalments of \$60. One share of stock is issued with each bond; the bonds are to be retired as soon as the income from the plantation will admit, after which the profits will be divided among the shareholders. It is planned to

plant 1000 acres in coffee and 1000 acres in rubber, the remaining 500 acres to be devoted to pasture, corn, sugar cane, nurseries, buildings, and 50 acres in vanilla. There are now standing 50,000 coffee trees four years old, expected to yield a crop this year, and 2500 rubber trees three years old; also, some pineapples and bananas, together with enough corn for the needs of the plantation. The officers are: *F. W. Tillinghast* (lawyer and cotton manufacturer, Providence, R. I.), president; *C. F. Edgerton* (manufacturer, Shirley, Mass.), vice president; *W. H. Chase* (manufacturer, Leominster, Mass.), second vice president; *Alfred N. Leitch* (manufacturer, Leominster), secretary and treasurer. The manager at the head office is Charles A. Devereaux. The plantation superintendent is T. E. Rivers, who has been on the ground for four years,

SUN AND SHADE PLANTING FOR RUBBER.

THE illustration at the foot of this page has been supplied by Mr. Maxwell Riddle, of the Obispo Rubber Plantation Co., who also contributes to THE INDIA RUBBER WORLD the following comment upon it:

"There has been much discussion among rubber planters as to the advisability of planting *Castilloa elastica* in the sun or shade. It is admitted that the cost of planting in the sun is much greater, owing to the rapidity with which the weeds grow, which increases the cost of keeping the young plantation clean, but it seems not to have occurred to the advocates of shade planting that if the weeds grow faster in the sun, the rubber plants will also grow faster. The company developing the Obispo plantation made an experiment last year with the object of comparing the two systems. There seem to be two principal points to determine: (1) under which method trees will grow more rapidly; (2) given two trees of the same age, one grown in the shade, and one in the sun, which will yield more rubber? The experiment was designed primarily to settle the first point. The company planted two nurseries, in the sun and in light shade, respectively, both planted at the same time and with the same care. The two accompanying views, from photographs taken about five months after planting the seed, indicate the result. The man's hat lying on the ground in the view to the right shows the size of the plants grown in the shade. The boy standing in the other nursery shows the height of plants grown in the sun, there being a difference of fully two feet in the average height of the plants in the two nurseries. Regarding the question as to the ultimate yield of trees grown under the two systems, it is generally admitted that a brash or sappy rubber tree will yield more than a hard, thin barked tree. The

desired result can be obtained only by shading the trunks of the trees. It was observed in the nursery grown in the sun that where the plants were so close together as to shade each other they answered the former description; whereas when they happened to be scattered they were hard and woody. The management of the company, therefore, are led to conclude: (1) That in order to get the size and quick growth desired in seven years, the trees must be planted in the sun, and (2) that, to keep the trees soft and sappy, they should be planted to the number of 400 to the acre during the first years of their growth, so that they will shade each other, the trees being thinned out at five or six years. This experiment would seem to support the theory that a wild tree growing in dense forest shade, without attention of any sort, will not attain full maturity and maximum capacity of yield under at least thirty years, as against fifteen years for cultivated trees."

THE MERIDEN RUBBER PLANTING CORPORATION.

[Office: Meriden, Connecticut.]

INCORPORATED January 23, 1902, under Connecticut laws; capital, \$30,000. Officers: *E. W. Smith*, M. D., president; *D. C. McMahon*, D. D. S., vice president; *F. E. Bemis* (superintendent of an organ factory), secretary; *Frank A. Stevens* (member of an insurance firm), treasurer—all of Meriden, Connecticut. At the first meeting of the incorporators \$20,000 of the capital was subscribed. *J. Herbert Foster*, of Meriden, proprietor of The Rubber Alphabets Co., has been appointed general manager, with authority to proceed to Mexico and locate and develop a rubber plantation, with a view to a larger investment being contingent upon the success of the first undertaking. Mr. Foster was mentioned recently in THE INDIA RUBBER WORLD as having spent several months in investigating private rubber plantations in Mexico, and he is understood to hold options on desirable small estates in Vera Cruz.

PORTUGUESE EAST AFRICA.

THE British vice consul at Inhambane, in an official report, mentions a rubber plantation started near that port in 1900, "where already there are some 200,000 trees in a fine healthy condition, many scarcely a year old already being over ten feet in height. The plant [known locally as the "circa"] appears to grow with extraordinary rapidity, and in all situations, whether on low lying lands, or on the sides of sandy hills." It is mentioned that many such trees, planted several years ago, have attained considerable size, though the yield of rubber as yet has been very small, which the vice consul thinks may be due to want of experience on the part of the "tappers."



RUBBER NURSERY PLANTED IN THE SUN.—NURSERY PLANTED IN PARTIAL SHADE.

THE GRADING OF BALATA.

IN the last INDIA RUBBER WORLD appeared a communication from a manufacturer suggesting the desirability of a closer grading of Balata. There has since been received a letter from a house in Europe, engaged to an important extent in handling Balata, from which we quote:

"We have had considerable experience in sheet Balata, particularly in the Surinam product, and we must say that as far as Surinam sheet Balata is concerned, we have found the quality as a whole very regular and reliable. Two years ago there appeared some very thick sheets, which were not entirely coagulated at the thickest spots, and of course this was not desirable, as the milky stuff inside flowed off when the Balata passed through the rolls, but measures were at once taken in Surinam to prevent this, and we have since had no reason for complaints.

"At times we find some sheets which have a sandy surface on one side, which comes from the collectors not drying the Balata upon leaves, as should be done, but upon the sand. It appears that in some instances this is unavoidable; besides it is of little importance as affecting the quality of the Balata, and buyers do not object to it, for this reason: They know that there are some sandy sheets, and make their calculations accordingly. It is only a matter of loss in washing, for the sand is not mixed with the Balata, only adhering to the outside.

"It should be understood that all this relates to Surinam sheet Balata, which we consider a little better quality than the Demerara sheet. In the latter there are more thick white sheets (Surinam is red or reddish brown, as a rule), and more sandy pieces, and for this reason Demerara sheet is graded on arrival in two qualities, known as 'Pile 1' and 'Pile 2,' the latter comprising the thick white and sandy sheets. Contracts for Demerara sheet are thus made at two prices, the difference being about $2\frac{1}{2}d.$ or $3d.$ per English pound.

"On the whole, we believe that Balata is a pretty reliable material—at least sheet Balata, the form of which precludes the idea of adulteration. But the same thing cannot always be said of Venezuela block Balata, about which there are at times serious complaints of adulteration. We now take the precaution of having every block cut through on delivery. Importers also try to help the matter by adopting the Surinam method of collecting—in sheets—and we have seen some small parcels of Venezuelan sheet Balata which showed a considerably improved quality, although the material itself remains always inferior to the produce of the Guianas."

* * *

WE have also a letter from a factory in Europe long established in the production of Balata goods, intimating that no cause exists, in their opinion, for desiring a closer grading of Balata than hitherto.

A German manufacturer writes to THE INDIA RUBBER WORLD that he does not agree with the writer in the last number of this paper, that sheet or block Balata is coming to the market in different qualities. On the European markets, he says, the sheet Balata is preferred, and costs more than the block Balata. The best comes from Surinam, though good lots are received sometimes from Demerara. It is yellow and clear, while the block Balata is gray and not so pure as sheet.

An importing firm in New York states that for ordinary requirements in the United States the Venezuelan block Balata suffices, while for finer work Surinam sheet is called for, graded as "Pile 1" and "Pile 2," with sometimes a special grade of "highest quality," which is amber colored.

Another New York importer says that the average value of

sheet Balata has been about 50 per cent. higher than block, on account of being better dried.

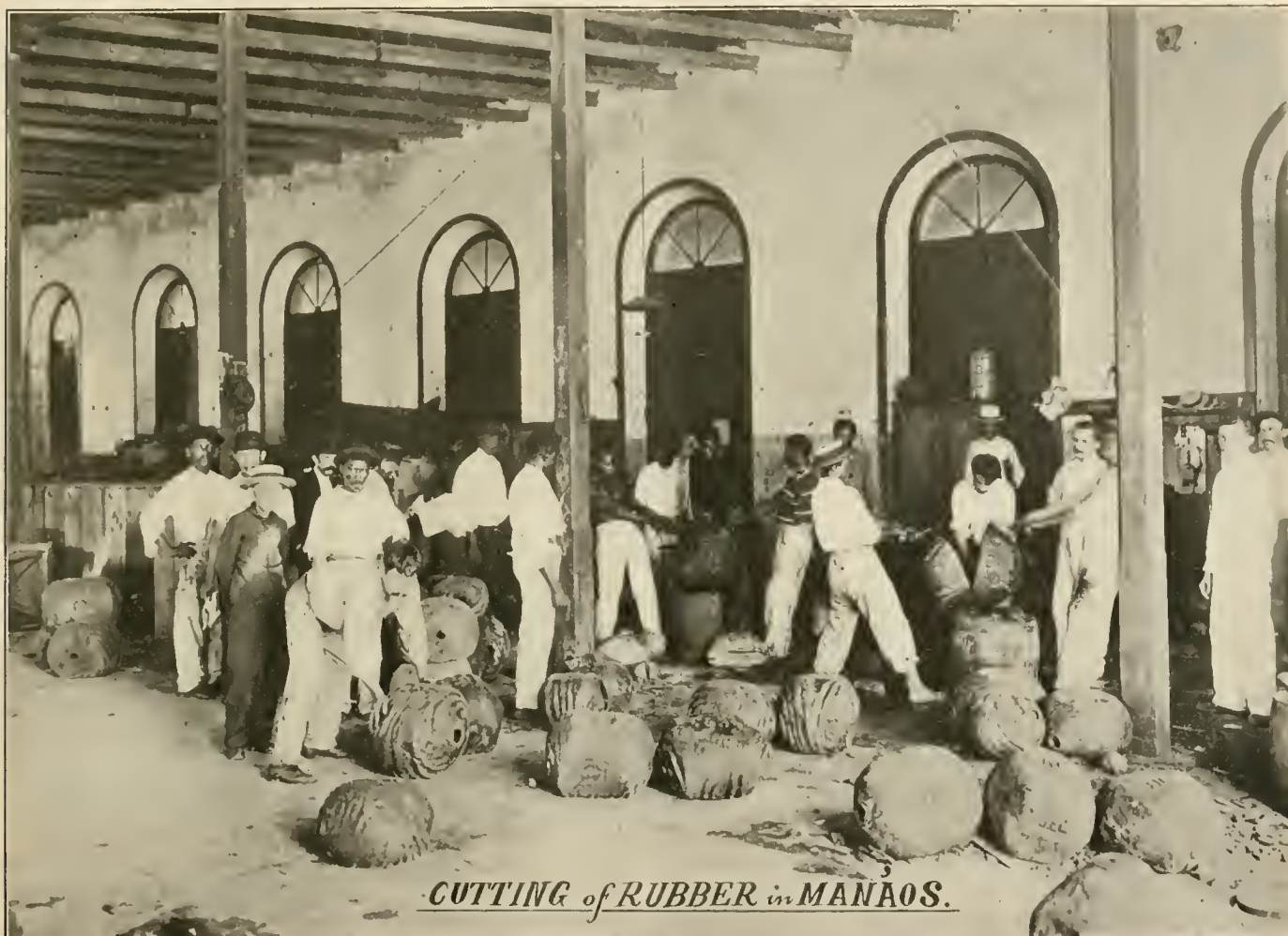
An American engaged in the Balata trade in Venezuela and who has been experimenting with the production of Balata in sheets, informs THE INDIA RUBBER WORLD that the Balata cured in this form in the sun was dark in color, while the sheets formed under sheds, and protected from the sun's rays, was whiter. He regards as impossible any such supervision of the native workers as would result in cleaner Balata, though the sap might be strained before curing, to get rid of fragments of bark and the like.

RUBBER STEALING IN RUSSIA.

THE *Düna-Zeitung*, of Riga, in discussing the thefts of goods in transportation on Russian railways and shipping lines—impossible to suppress wholly, with the utmost precautions—says: "There is, above all, one article made apparently for the purpose of robbery—the most valuable kind of crude rubber, the so-called Pará rubber, coming from Brazil. It is valuable, one pound costing about 2 rubles. On account of its manifold usefulness it can easily be converted into money. It is difficult to prove its identity, because one piece looks like another, and it cannot be proved whether the rubber found in the possession of a suspected person is exactly the one stolen out of a certain lot. Although the leading rubber manufacturers have taken concerted action to check the stealing of crude rubber, and the dealing in stolen goods, yet there are so many subsidiary trades in which Pará rubber may be used—in the cloak manufacture, and the repairing of goloshes and pneumatic tires, etc.—that stolen rubber is almost certain to find a market, in small lots, in such towns as Reval, Dwinsk, Wilna, Polosk, etc., where the trade in such material is carried on openly."

The rubber consumed in Russian factories comes mainly from London, by sea, landing at Riga, Libau, and St. Petersburg. The newspaper above quoted says that lower sorts are not molested, because less readily marketable, but that the thieves can distinguish the Pará rubber by means of the cases in which it is packed, and it is seldom that a lot arrives without having been broken into. For a long time the parties who suffered the loss endeavored to find out where the stealing occurred, and who could be made responsible for it. The customs officials proved that they had delivered the weight received; the English shippers proved the correctness of the weights as inserted in bill of lading before the boxes went on board ship, and the ship captains—why of course nothing could be stolen under them; their sailors were men of honor. Thehipowners, of course, sided with their captains.

Quite accidentally a clue was discovered lately to the methods of the rubber thieves. The English Wilson line steamer *Rinaldo* was unloading coal at Mühlgraben, the coal being hoisted from the hold in baskets and turned into a wooden chute through which it was conveyed on shore. A customs officer was surprised to see one large piece of coal suddenly leave its place in the chute, give two or three bounds, and spring overboard, where it floated on the water. He had the strange object picked up, when it proved to be a ball of Pará rubber, weighing about 18 pounds. A search of the coal cargo revealed many more such balls—about 288 pounds in all, abstracted from a lot of rubber carried by that steamer for two local factories. Evidently the rubber had not been abstracted and mixed with the coal before the rubber cases were brought on board, nor had it been done by the local laborers during the unloading. Steps will now be taken to protect rubber shipments while at sea.



CUTTING of RUBBER in MANAOS.

VIEW IN AN AMAZON RUBBER WAREHOUSE.

THE illustration on this page gives a view in the warehouse of the long established rubber exporting firm of Witt & Co., at Manáos, on the Amazon, the political and commercial capital of the Brazilian state of Amazonas. A force of laborers is shown cutting open the large balls of fine rubber, in order that the quality may be graded, and to facilitate the packing of the rubber in cases, to say nothing of keeping a lookout for concealed substances other than rubber. The work is not easy, as one will appreciate who has had any experience in separating even a small sample of rubber with a knife, and the laborers employed are a stalwart class. The amount of such work is indicated by the fact that the Messrs. Witt handled during 1901 more than 7,000,000 pounds of rubber.

The responsible members of this firm are Messrs. N. H. Witt and José de Figueiredo. The firm have always been intimately connected with the Pará house of Frank da Costa & Co., whom they represent in Manáos. The growth of the rubber exporting trade in Manáos has been phenomenal, until every important house in Pará either maintains a branch at this growing up-river center, or is closely connected with a Manáos firm. The latest statistics issued by Frank da Costa & Co. of Pará (for 1901), compared with a similar statement issued by their predecessors La Roque da Costa & Co. (for 1893), make the following showing of the total exports via the Amazon river, and the share exported direct from Manáos—in kilograms :

	Total Exports.	From Manáos.
1893.....	19,144,057	4,743,752
1901.....	30,131,854	15,469,395

In the former year the house of Da Costa was represented up the river by the Banco de Manáos, who were credited with the export of 1,021,680 kilograms. The name of Witt & Co. soon afterward appeared in the list of exporters, and during 1901 they shipped 3,271,316 kilograms—of which 1,189,830 to Europe and 2,081,486 [=4,579,269 pounds] to the United States. During the former year the Da Costa firm were buyers on the Amazon for the large factories of Joseph Banigan and the Boston Rubber Shoe Co.

RUBBER EXPORTS FROM ECUADOR.

THE Guayaquil chamber of commerce reports :

Pounds.....	1897.	1898.	1899.	1900.
	1,121,288	1,588,660	1,441,823	1,103,511

The president of the chamber says, in his report : " The decrease in rubber is a proof that it is not properly attended to. The parties of rubber seekers (*caucheros*) who have started work in the wild forests of the interior and the oriental provinces are not assisted by any facilities, and they return exhausted. Owing to the fact that the consumption of this gum is extending so much, I think it is time to ask from the government every possible aid from the explorers, beginning by the opening of routes to the producing places."—The export duty on rubber was reduced from 20 cents to 15 cents (silver) per kilogram, equal to about 3¼ cents (gold) per pound.

CYCLES, AUTOMOBILES, AND TIRES.

A COUNT of the automobiles seen on upper Fifth avenue, in New York, on the afternoon of January 20, between the hours of 2 and 7, showed 176 going uptown and 144 coming down—a total of 320. While it is probable that many of these were counted twice, still these figures, for a single thoroughfare, would indicate that the new vehicles are becoming numerous enough to make an important demand for rubber tires. A report has been current of a contract completed by one rubber factory for \$50,000 worth of tires for a public motor vehicle company in New York. While the heavily capitalized electric vehicle companies organized in various cities by stock jobbing interests have gone out of business or reduced their capital to an honest basis, the business of manufacturing automobiles appears to be extending. Recently the American Bicycle Co. divided its business, one branch to be devoted to making and selling automobiles, which is regarded in some quarters as indicating an ultimate intention of the management to devote itself principally to the new industry, and possibly to bring about a combination of the strongest elements in that branch.

As for the bicycle industry, it was stated at a recent meeting of the Miami Bicycle Co. that the number of bicycle factories in the United States had declined from 288 on January 1, 1900, to 69 on January 1, 1901, and to only 24 on January 1, 1902. THE INDIA RUBBER WORLD is informed that in a certain city of 200,000 inhabitants, there were at one time estimated to be 10,000 bicycles owned, the streets and parks were crowded with wheels, and there were fifteen bicycle stores doing business, together with as many other stores handling bicycles, and numerous repair shops. Now a single bicycle store suffices, and a bicycle is seldom seen on the streets. This may be an exceptional case, but it is in the knowledge of every one that cycling has declined in this country, and one result has been a heavy falling off in the bicycle tire trade—a once important branch of the rubber industry.

At the New York cycle show of 1895 there were 22 separate exhibits of tires, made in 19 factories, a single one of which embraced twenty different "styles." At the 1897 show 28 exhibits were made, representing again 19 factories. To-day only eleven rubber concerns are named as "active" licensees under the Tillinghast single tube tire patent, several of whom are more active in pushing their trade in the motor than in the cycle trade, and some of whom are making very few tires for the latter. Besides, two rubber factories are making tires to which the Tillinghast patent does not relate. But the field has been deserted by certain concerns which, five years ago, were large manufacturers of bicycle tires.

Time was when the large and elaborate catalogues of the bicycle manufacturers devoted much space to the subject of tires. This year, an examination of the more modest booklets issued by the constituent companies of the American Bicycle Co., with a single exception, fails to disclose any mention of tires except in the briefest manner, in small type, indicating what makes of tires the buyer of any particular wheel may choose from. The evident purpose is to sell wheels, not tires; if one will only buy a wheel, he can have almost any kind of tire. And no doubt the average buyer is concerned less about the kind of tire than about its cost.

The bicycle appears to have held its own better in Europe. Victor Breyer, a French cycling journalist visiting America, told *Bicycling World* that a million bicycles are in use in France and that the number increases yearly, for both business and pleasure. Many small manufacturers have gone out of

business, but the larger concerns, with ample capital and factory facilities, are reported to be in sound condition. A French government report for 1900 recorded that the number of registered bicycles in that country amounted to 975,878; motor cycles, 11,252; and motor cars, 5286. The maintenance of two bicycle shows in London is regarded as proof of a continued interest in cycling in the United Kingdom. While the number of exhibitors of late has been smaller than formerly, there was a gain in the total number of wheels exhibited, from 1779 in 1900 to 1866 in 1901—according to the *Cyclist*.

But the European demand has been supplied with a decreasing assistance from American factories, involving no doubt a declining export of American cycle tires. The value of total exports of "Cycles and parts" from the United States for the past five years has been:

1897.	1898.	1899.	1900.	1901.
\$6,902,736	\$7,092,197	\$4,820,284	\$3,061,061	\$2,599,237

The only country buying American bicycles to which the exports were not smaller last year than in 1899 was Japan, which took \$223,787 worth as against \$138,155 in the former year.

TRADE WEST OF THE MISSISSIPPI.

IN regard to the rubber footwear and mackintosh trade in the territory of which Omaha is the center, Z. T. Lindsey, president of the Inter-State Rubber Co., of that city, informs THE INDIA RUBBER WORLD:

"The territory in which we work includes all the states and some of the territories from fifty miles west of the Mississippi river to the Pacific coast. Early in December there was a very bad spell of weather—nct much snow, but it was very cold for several days—which created a great demand for the kind of goods we sell. There was difficulty in getting enough goods to supply the demand up to and including Christmas week. After that the weather moderated, and January proved to be about the mildest January that has been known in the territory referred to. A remarkable fact is that there has not been up to this time [February 8] very much snow in any of the mining districts, the only exception being an early snow in northwestern Montana, which soon disappeared. The dullest trade in our line of goods and the poorest collections this year are in the mountain and silver mining country.

"Our customers claim that they are expecting to carry over three-fourths of the goods which they bought from us last summer and fall. But as there can be a great deal of winter weather in that particular section of the country between this date and April, we hope the retail dealers will dispose of all their goods before another season. The cold weather and snow that came about three weeks ago through Iowa, Missouri, Kansas, Nebraska, and South Dakota caused quite a good demand on the retail dealers for goods that they had on hand. It has made a steady demand on jobbers for sorting up goods, and indirectly has helped the jobbers and directly been a great benefit to the retail dealers. No doubt the retailers will dispose of half to three-fourths of the goods which they bought for the present winter. Owing to the mild January referred to, collections have not been quite so good with us as last year, but the only failures have been of firms who wanted to fail.

"On account of the high prices of all kinds of grain, hay, and live stock, the western country is in an unusually prosperous condition, and the people have plenty of money to buy anything they need; therefore a better class of goods is being sold in all lines. Dry goods, clothing, and leather boot and shoe dealers claim that they have never sold as many high cost goods in this section of the country as they have sold during the past few months, and we believe this to be true."



THE SUNNING OF VULCANIZED RUBBER GOODS.

IT seems to be the general impression throughout the rubber trade that the solarization of rubber goods has ceased. As far as the gossamer waterproof fabric goes, this is practically true, but the sun finish on vulcanized rubber goods of many kinds, not only is continued, but is done on a larger scale than ever before. A great many surface goods, both in wearing apparel and in sheetings, are exposed to the sunlight after they come out of the heaters for a final surface finish. It is in the line of druggists' and surgical sundries, however, that the best effects are obtained. This is probably because every up-to-date factory has a room, usually on the roof, fitted with a heavy glass that diffuses both the light and the heat rays over the rub-

ber surfaces that are exposed on the tables beneath. The illustration shows the interior of the sunning room at the factory of the Seamless Rubber Co. (New Haven). The goods here shown are water bottles, which are exposed to the rays of the sun for several hours, the object being to whiten them and incidentally to give them the velvety softness to the touch which the exposure does as nothing else can. It is interesting to note that white goods are not the only ones that are thus exposed. Some of the very best grades of red goods, particularly for surgeons' use, are thus treated as a final finish. It will be seen, therefore, that the general belief that the rays of the sun are injurious to all vulcanized rubber is not correct.

RUBBER HOSE FOR BREWERIES.

A GOOD deal of rubber hose or piping is required in one way or another by most breweries, and, owing to its limited "life," forms a not inconsiderable item in working expenses. We consider it a mistake to employ long lengths of rubber piping for racking beers or running worts; for not only does old rubber tend to give a decided flavor to beer, but it is also difficult to keep clean and sterilized, and can be replaced by copper piping at an ultimate saving of cost. In the case of hose pipes for washing purposes, rubber is practically indispensable and the wear and tear is very considerable; for not only does it become worn by friction upon the floors, and upon the sides and edges of vessels, but also by the amount of kinking which it undergoes in being moved about or coiled and uncoiled by workmen. The usual plan adopted by a workman to untwist a kink is either to give a vicious pull at the pipe or to swing the

whole thing around in the wrong direction, which cracks and gradually tears away the rubber. For general use we find the wire-wrapped hose to stand more wear and tear, and to last much longer than the plain hose; for not only is the rubber protected, but kinking is almost impossible either at the place where it is attached to a tap or in the course of its length. Rubber hose when not in use should never be left lying about, nor be hung up on nails and pegs, but should be coiled upon a wooden saddle provided for the purpose. Here, again, however careful workmen may be, a fairly wide hose of, say, 2 inches diameter, becomes flattened when hung up, by reason of its own weight, causing the rubber to crack. Wire-wrapped, or "sphincter" hose as it is called, coils easily upon a saddle and cannot become flattened, thus, in another way, preserving its existence. Sphincter hose is more expensive than plain hose, but is more economical, because the extra cost is fully made up by increased durability.—*Brewing Trade Review.*

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

IT is not particularly easy to get at accurate statistics, even if such were really worth the labor of obtaining, but there can be no doubt that the present winter, with its numerous snow falls, has done a good deal to popularize the rubber shoe in this country. Retailers' stocks, especially in London and the suburbs, have been quite unequal to the sudden demands which been made upon them. No doubt the inadequacy of the cleansing arrangements of our streets, productive of so much ire to the suburban resident particularly, is looked upon with a lenient eye by those who are interested in the sale of rubber footwear. Ladies still remain the principal customers, for although a certain number of elderly men wear the rubber boot as an addendum to the ordinary one of leather, yet the majority of men customers use them only in connection with the evening outfit—a point generally urged in disfavor being the tendency to make the foot overheated.

I HAVE received from Mr. Joseph Thomas Wicks a neatly got up pamphlet descriptive of the properties and merits of his patent double acting mixing mill, and double acting waste rubber grinder, which are manufactured by Messrs. James Bertram & Son (Edinburgh). Reference has already been made to these machines in this column, and it will suffice now to advise those who require further information to apply to the patentee at 6, Grand Parade, Haringay, London, N., for a copy of the pamphlet, which enters into full details. The saving of manual labor which is a feature of these machines is, as we have recently experienced, in the engineering and boot trades, not altogether appreciated by the British workman, but it is certain that this adoption of American principles, which is as yet in its infancy, will increase to much larger proportions in the near future; and indeed it is obvious that the antagonism evinced by the British workman is really a shortsighted policy and not conducive to his best interests in the long run.

THE manager of one of our largest concerns in this branch says that, although trade has been good during the last twelve months, yet the fine dry summer has caused a considerable diminution of profits. The business is now carried on in a very hard to mouth way; neither the retail shops or the wholesale houses keep any stock to speak of, compared with what was formerly the rule, and the present conditions are much more onerous to the works management who have to be prepared to fill all sorts and conditions of orders at express speed. To pass on the expression of a harried works manager, the business with its continual change of conditions and alterations in patterns and styles is "quite sickening" and no doubt there are others holding managerial positions who will endorse this opinion. Following the lead set a year or two ago by Messrs. Mandleberg, Frankenburg & Co., Limited, are about to start a factory in Hamburg for making up waterproof garments. Probably shipping facilities have as much to do with this as the development of Continental business, because the mackintosh has never attained the popularity in Germany which attended its introduction in Great Britain. I have often, however, heard a high opinion expressed on the continent for the British make, and have listened to the complaints of Germans at the duty they have had to pay when taking such goods home from England;

therefore it may be that a British descent on the Fatherland may prove to have sufficient justification. As a rule the patterns and cloths produced in Yorkshire are open to purchase by any waterproofing factory, which of course precludes any particular firm from claiming a specialty. It is not at all usual for weaving to be carried on at the rubber works, though a notable exception occurs in the case of Messrs. Mandleberg, who do a considerable amount of weaving of special patterns both in wool and silk, of which of course they have a monopoly in the trade. With regard to developments in the trade, it may be mentioned that a new firm is about to tempt fortune in the neighborhood of Manchester, though not on a large scale, but more of this anon. A new making up house is Messrs. I. Kriegsfeld & Co., Limited, of 112 Princess street, Manchester, dealing in rubber and rain proof garments. Another firm doing the same class of business has recently been formed into a limited company under the style of the Manchester Waterproof Manufacturing Co., Limited, 28, Dutton street, Manchester.

I REGRET to say that under the pressure apparently of a large creditor of some prominence in the rubber trade a receiver has been appointed to these works, where ever since its connection with the cycle tire business, troubles seem to have been more or less acute.

In the earlier days of the factory, when the proprietors were Mr. Cohen and Mr. Cresswell, a good deal of money was made, but of late years this era of prosperity has been succeeded by one in which disputes and lawsuits have been unpleasantly prominent. Mr. Cresswell is now the proprietor of the Cheshire Rubber Co., whose works are situated about a mile distant from those of the Imperial company.

THE *Philosophical Magazine* for last November contained an article entitled "On the Resistance of Dielectrics and the Effect of an Alternating Electromotive Force on the Insulating Properties of India-rubber," by A. W. Ashton, B. SC., and it will no doubt prove of interest to those in the trade sufficiently cognizant with electricity to understand the technical terms. I do not propose to occupy my limited space by entering on a discussion of the paper here, though I cannot refrain from a comment or two. It would have been more interesting from a technical standpoint, if the rubber designated as "No. 1," and which proved much superior to pure Pará, had been more clearly described; we are left quite in the dark as to whether it is a pure rubber or an admixture. I doubt if pure Pará is as generally used in insulating as the author supposes; there does not seem to be much of it in the compound rubbers. His conclusion is, that in presence of air, pure Pará deteriorates, but then the great bulk of the Pará which is used is in the form of strip as a first coating for the wire, and in this position it can hardly be said to come in contact with the air. That pure Pará is rapidly destroyed by ozone, has, of course, been shown long ago, and it certainly would seem that the No. 1 rubber which is stated not to be affected by ozone, is either highly compounded or is not rubber at all. Of course, this is only presumption; but it is somewhat novel and disquieting to hear of Pará rubber ranking after other sorts in any of the uses to which rubber is put. With regard to rubber insulation generally, it seems that great differences of opinion exist amongst our cable manufacturers as to the degree of compounding, which is desirable,

RUBBER
FOOTWEAR.

WICKS'S PATENTS.

HYDE
IMPERIAL RUBBER
CO., LIMITED.RUBBER
AS AN
INSULATOR.WATERPROOF
GARMENT
TRADE.

or else the question of price reigns supreme, I don't pretend to know which. Thus the compound rubber used by one firm contains 70 per cent. of mineral matter, while that of another contains 40 per cent. and mineral of a different nature too. The battle of rubber versus paper which has been waging for some years, cannot be said to have ended, advocates of both dielectrics being strongly in evidence. With regard to rubber, the question of the overheating of the mains by leakage of current is an important one, and in a recent case where newly laid rubber cables have come in for scathing abuse, it seems to be, from the facts as made known to me, that the fault lay with the engineer rather than with the cable manufacturer.

So far the expected motor tire which is to eclipse all others has not made its appearance from the Birmingham works; in the meanwhile the laurels gained by Michelin & Co., seem to be somewhat threatened by the progress which the tire turned out by the Continental company, of Hanover, has recently made in popular favor. Up to recently only the inner tubes made by this firm have been sold in Great Britain; now, however, an arrangement has been come to with the Dunlop company that the complete tires may be sold, the Dunlop company receiving a royalty on the sales.

WITH respect to the formation of a company under this name in London, in connection, I understand, with the New York Belting and Packing Co., Limited, some confusion seems likely to arise with regard to correspondence, unless strict attention is paid to the exact title, there being another London firm with a very similar appellation. This is The New York Wheel and Rubber Tyre Co., of 327, Kennington lane, which is owned by Count De Nevers and has no connection with New York at the present time, though I believe that at one time the wheels to which the firm attach their tires were of transatlantic origin.

THIS firm, so long well known in the card cloth and wire trade, has opened a new department for the manufacture of motor cars, Mr. J. Kennedy, one of the partners in the firm, and who is a mechanical engineer by training, being the prime mover in the new venture. From what I hear the "Harbeck" car, which they are now making, has a future, combining as it does the principal features essential to success in this class of work. The manufacture will be carried on at the same address as the card cloth business, at the Bridgewater works, Pendleton, Manchester.

PROBABLY no item of news of a personal nature has lately given rise to so much comment in the rubber trade, at least in the Manchester district, as the announcement that Dr. Weber had severed his connection with the firm of Frankenburg, with which, if I am not greatly mistaken, he has been associated for about ten years. It would somewhat transcend the limits of news proper, to say nothing of good taste, to enter here into the causes of Dr. Weber's somewhat abrupt departure from the firm mentioned, and of which it is understood he was a director; it will suffice to state the fact. With regard to the future, Dr. Weber has circularized several rubber firms to the effect that he intends to practice as a consulting expert in the rubber trade, which was about the most natural thing to expect, seeing that he has long acted in this capacity for certain firms. His connection with the scientific as well as the practical side of the manufacture should enable him to do better from a financial standpoint than have others who, owing to stress of circumstances, have essayed to win the suffrages of the trade under the easily assumed though rather vague and uncertain title of "rubber expert."

IT is rather curious to study the vicissitudes which have attended the attempted introduction of this product into commerce. Every now and again one reads of some particular purpose for which it is preëminent, though it does not appear in any case to have fulfilled the expectations formed of it. Some ten years ago it was kept in stock by certain of our wholesale druggists, but now it cannot be obtained from them. One of the purposes for which it was recommended was that of preventing the rusting of fire-arms, and it was said to have been used to this end in Germany; my own attempts, however, to gain it a footing in England for this purpose brought me nothing but abuse, so I let it severely alone. I read now that it is proposed as one of the innumerable specifics for preventing the incrustation of steam boilers, though it is difficult to see how in the mechanical action it exerts it can compete successfully with cheaper materials.

ON January 21 a new departure was inaugurated at the works of Messrs. Charles Macintosh & Co., Limited, a social club for the benefit of the work girls being opened by Messrs. R. K. and H. A. Birley. This club is an advance on the ordinary dining room, as it is fitted up for recreation, and on certain nights in the week it is to remain open until 10 o'clock, under the superintendence of a lady connected with the parish. Perhaps more has been done in this way on the Continent than in Great Britain, and in this connection the arrangements made at certain German works recur to my mind. It would be ungenerous to attempt to pick holes in an arrangement made purposely to benefit those to whom the adage *res angusta domi* may fitly be applied; all the same it may be objected in some quarters that the atmosphere of a rubber works is not of the most salubrious character in which to spend the evening, albeit it has advantages in many respects over that of the music hall.—The works of the North Western Rubber Co., at Litherland, near Liverpool, are rapidly approaching completion. The name is a somewhat misleading one, as the rubber manufacture proper is not to be carried, but only the recovery business. Although no naphtha is to be used, and difficulties are not to be apprehended with the insurance people, yet the best means of protection against fire are being adopted in the buildings. The secretary and manager is Mr. Buckleton, and Mr. Riddle is the engineer in charge. —At the last half yearly sale by tender of the condemned telegraph stores of the general postoffice London the amount of Gutta-percha offered was 25 tons. The figure at the previous sale was 39 tons. The average for some time has been about 40 tons, but no doubt, as was predicted in these notes some time ago, the onward march of the paper covered cable has had its influence upon the amount of Gutta-percha used for this purpose, and those who have been accustomed to buy Gutta-percha at these sales will not find this such a good source of supply in the future as it has been in the past.—Mr. Carroll for some time works manager at Messrs. Gotliffe & Son's, at Hyde, is now with Messrs. Ferguson, Shiers & Co., at Fails-worth, Manchester.

WHEN Gutta-percha tissue first came into use, Mr. Nat. W. Goddard, a well-known seller of tailor's trimmings in Boston, having quite an amount of it in stock, and being very proud of it, conceived the idea of draping his window with it, the strips being hung in long and graceful festoons. Early in the day the effect was very fine, but when the sun shone on his handiwork, it so softened the strips that they dropped in a sticky mass, incidentally ruining many other goods—just what any one familiar with the gum might have predicted.

OIL OF
CAOUTCHOUC.

SHORT
MENTION.

TIRES.

NEW YORK TIRE CO.

MESSRS.
HORSFALL
& BICKHAM.

DR. C. O. WEBER.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE "VENDOME" CLOG.

IT has been predicted for some time that the clog, formerly an exceedingly popular type of shoe, but which during the last year or two has fallen somewhat into disfavor, would regain its old time popularity. This prediction is rapidly being fulfilled, and there is good reason for it. A well designed clog is an exceedingly comfortable rubber, is very easily put on, and while it will not slip off, it can be kicked off without any trouble, and for city trade it is just the thing. The "Vendome" type of clog is so designed that once on the foot it fits perfectly and is free from the fault that many clogs show—that of gaping at the sides when the weight of the body rests upon the toe. [Wales-Goodyear Rubber Shoe Co.]



GUTTA-PERCHA BELTING.

THERE is no doubt but that the Gutta-percha belt originated in the United States. Away back in the forties, when the Goodyear rubber vulcanization patents were in force, there were made at the Roxbury factory, belts wholly of Gutta-percha, with no plies of fabric at all. These belts were, of course, exceedingly stiff if exposed to the least cold, and were suitable only for warm, damp



places. The legend is that they were used in certain salt mines. Later, when there came to be a distinct call for Gutta-percha belting, Forsyth's patented Gutta-Balata belt was put upon the market, and had a large sale, particularly in tropical countries. Of late certain lines of American industry have called for this belt, notably the paper mills, and a large amount of it has been sold. Two types of this belt are made: one for hot countries, where the plies are held together simply by the Gutta-Balata friction, and one for temperate climates, where the plies, in addition to the friction, are stapled together. The belting under discussion is seamless, can be run with either side next to the pulley, is unaffected by oils or grease, never requires dressing, and has practically no stretch. It is specially serviceable in warm moist places and is remarkably durable. [Boston Belting Co., Boston.]

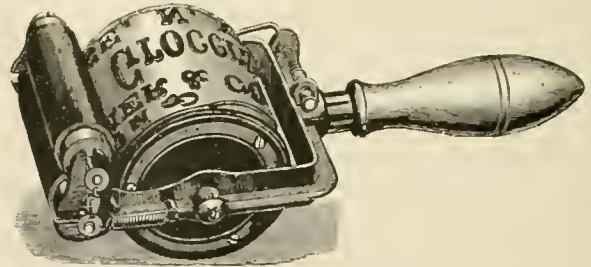
OILPROOF BALATA BELTING.

IN relation to a German patent [G. M. No. 157,074], granted to Helmers and Renk, of Harburg on the Elbe, the *Deutsche Gummi-Industrie* (Dresden) says: "Balata belts, which are now well known, exposed to the influences of oils and grease, soon show signs of wear. We have before us a sample in which this defect has been remedied by having its outer surface covered by a layer of lacquer (brown in color, in the sample), which imparts to the belt, in its use as a power transmitter, greater durability and

cleanliness than possessed by the belts made heretofore, without lessening in any way quality and usefulness."

PRINTING WHEELS FOR SHEET PACKING.

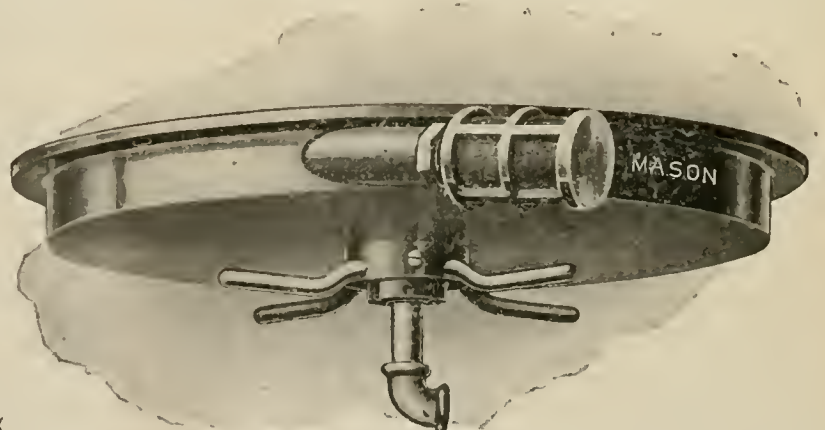
THE ordinary rubber stamp has broadened its field of usefulness so that its application has come to be almost universal.



One of the most interesting uses to which it is put is where the letters are distributed over a roll on which is hung a self inking device allowing it to do rapid and continuous work. The illustration shows such a device, that is now quite commonly used to put trade marks and brands on sheet packing. These wheels are made in three sizes and take a rubber die for No. 1— $2\frac{3}{4} \times 6\frac{1}{2}$ inches; for No. 2— $4\frac{3}{4} \times 8\frac{1}{2}$ inches; and for No. 3— $5\frac{1}{2} \times 10$ inches. [H. C. Dimond & Co., No. 22 Milk street, Boston.]

THE MASON HOSE REEL FOR MOTOR CARS.

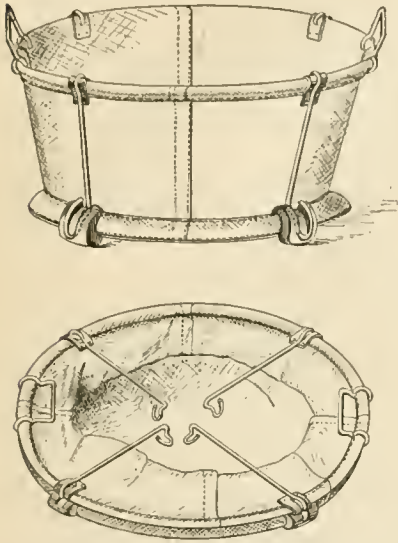
THE illustration represents a most complete arrangement for carrying suction hose on steam automobiles. It consists of a cylindrical case 12 inches in diameter by $1\frac{1}{8}$ inch thick, which can be screwed underneath the bottom of the carriage, and holds 10 feet of rubber suction hose. The inner end of this hose is permanently connected to a revolving disk, which in turn is connected through a stuffing box by a pipe which attaches to an ejector leading to a water tank. To fill the tank, the hose is drawn out as far as necessary to reach the water supply, and steam is turned on the ejector. When the



tank is filled, the steam is turned off and the hose wound up by turning the handles at the bottom of the case. By means of this device the motor water tank can be filled without even soiling one's hands or gloves, and without the annoyance of making connections to the tank. It is easily attached to the vehicle, is always in working order, and is neat in appearance. [The Mason Regulator Co., No. 158 Summer street, Boston.]

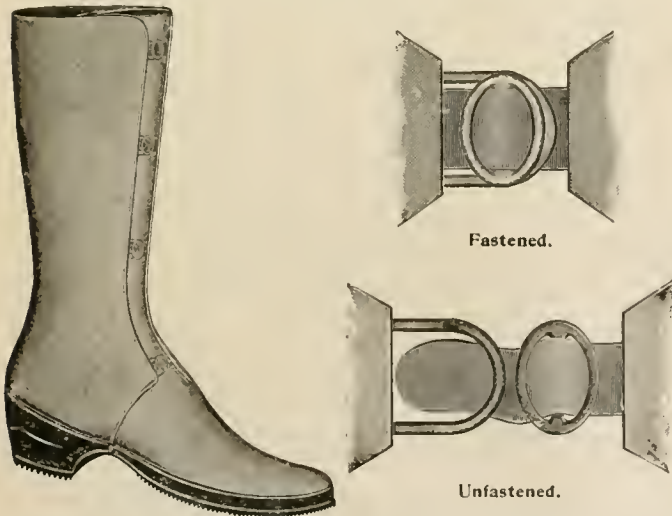
RUBBER FOLDING TUB.

THE accompanying illustrations relate to a folding tub, preferably of rubber, patented in the United States by John A. Shearer, of Schenectady, New York. The idea is to produce a tub, bucket, or similar vessel, which shall be light, collapsible, and easily portable, at the same time being waterproof or water-tight, and inexpensive. There are comprised two stiffening rings, surrounding the upper and lower ends of the vessel; a fabric forming the walls of the vessel and secured to said stiffening rings, the lower ring being of larger diameter than the body of the vessel and the hem having a hem or welt extending outward from the body at its lower end and receiving the lower ring; and ribs pivoted upon the upper ring and having their lower ends bent to form hooks adapted to engage the upper side of the lower ring, to hold the two rings separated—all of which may be seen in detail in the two engravings, one showing the form of the vessel in readiness for use and the other showing it when collapsed. The inventor is open to negotiations for the introduction of this article upon the market.



NEW STYLES IN LADIES' FOOTWEAR.

It is generally accepted throughout New England that the shapes of women's rubber shoes will lose the masculine appearance that they have had during the year past, the shoe last being straighter and much prettier. This will be accom-

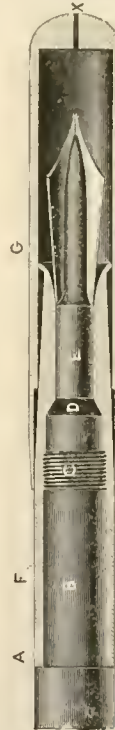


plished by taking off the outside "swing." In the West, however, the broader shoe will undoubtedly be popular during the coming season. Misses' and children's shoes in all parts of the country will be broad and "common sense" in type. In men's footwear there will be no particular change for the coming season. What promises to be a popular innovation in ladies' goods will be the new Wales-Goodyear "Siberia" and "Moscow," four buckle and three buckle overs, only instead of the

buckles they will have a new patent fastener that is very practical and tasteful. The buckle on a ladies' over is objectionable for the reason that it often catches on the skirt, while buttons either come off or are troublesome to adjust. The patent fastener or catch shown in the accompanying illustrations is adjustable to any size of ankle, is quickly fastened or unfastened, and cannot catch on the skirt. [Wales-Goodyear Rubber Shoe Co.]

THE "STANDARD FLANGE" FOUNTAIN PEN.

MR. RHODES LOCKWOOD, president of the Davidson Rubber Co. (Boston), is, as is well known, one of the proprietors of the Sterling Fountain Pen Co. It will interest the rubber trade, therefore, to know that the three suits of the L. E. Waterman Co., against Rhodes Lockwood and others, have all been dismissed upon the ground that the claims of the Waterman patents, if valid, are not infringed by the Sterling pen. In this connection may be described the latest type of Sterling pen, and particularly its newest and best feature, the standard flange. A cursory examination of the accompanying illustration will show one the value of the flange and its novelty. Of the lettered parts, *A* is the middle ink joint; *B* the inner extension of the barrel; *C*, screw threads joining barrel and section; *D*, conical ink joint receiving end of barrel extension; *E*, the feed; *F*, lower portion of barrel or section; *G*, flange joint at mouth of holder fitted into cap; *X*, vent hole in cap. The value of the flange *G* is that it holds the cap securely at all times by reason of the added bearing so near the middle of the cap. It also prevents the pen from being clasped so far down that the fingers may become soiled. Another, and equally good, feature is the absolutely non leakable middle ink joint, which prevents the sweating and overflow of the ink on the tapered end of the holder while being carried in the pocket. These pens are made in a great variety of styles, many new and beautiful designs having been recently added. [Sterling Fountain Pen Co. (Davidson Rubber Co., proprietors), No. 19 Milk street, Boston.]



MACKINTOSH RAIN COATS.

FOR some time past it has looked as if the tailor made rain coat, with its swagger cut, fly front, turn up cuffs, slash pockets, and full skirts would drive the mackintosh entirely out of the field, but once again rubber has come to the front. The trouble with the rain coat has been, in the first place, that while it is shower proof, it is not really waterproof; in the second place, no purchaser is able to tell proofed fabrics from unproofed, and the result is that many garments have been sold as rain proof that have never been through any sort of process. Mackintosh manufacturers have therefore stepped in and made light and elegant



garments, double textured, of cloth closely resembling the rain proof fabrics, and are putting them on the market at from \$5 to \$10 to the consumer, as against \$10 to \$30 for the other goods. Two excellent types of such garments are shown in the accompanying illustrations—the ladies' "Automobile" coat and the men's "Marlboro" coat. [American Rubber Co., No. 101 Milk street, Boston.]

A DAINTY USE OF RUBBER.

THE florist, says a writer in the "woman's page" of one of the newspapers, who had the pretty idea of adding a dainty pin to the bunch of violets every woman loves to wear upon occasions has supplemented it with another, which renders the delicate corsage immune. Fancy a little violet silk cover lined with rubber, tied round the stems, which, thus protected, retain sufficient moisture to keep the blossoms fresh through the entire evening.

RUBBER NOTES FROM EUROPE.

THE Austrian consul at Warsaw reports that rubber belting is manufactured in Russia, but that the better sorts are imported, principally from Germany. The German firms do business partly through agents, but with even more success through maintaining stocks in Warsaw and Lodz. Shoe elastics are produced by five Russian factories, and nothing in this line can be imported.

FIREPROOF GAS TUBING IN GERMANY.

THE Asbest- und Gummiwerke Alfred Calmon, Aktiengesellschaft (Hamburg), according to the Berlin journal, *Kuhlow's*, recently made a successful attack on the patent granted to Wilhelm Eisner, of Berlin, under November 29, 1898, for a fireproof gas tubing with close woven asbestos braiding. The Hamburg firm, who have sold rubber tubing with asbestos braiding since 1891, stated that it should not matter if gas or any other stuff was conducted through the tubes, and, therefore, no new patent should be granted for the specialty of "gas tubing." The imperial patent office held the same views, withdrew the patent, and forbade the manufacture of gas tubing with asbestos braiding as made by Müller & Korte, of Berlin-Pankow, according to this patent.

AMERICAN RUBBER SHOE AGENTS IN LONDON.

THE first annual dinner of the European staff of the United States Rubber Co., at the Holborn restaurant, London, on January 4, at which the chief guest was Mr. John W. Knott, manager of the company's London depot, is reported at some length in the London *India-Rubber Journal*. The humorous menu card, on which the various dishes were named after the various brands of the United States Rubber Co.'s footwear, excited much merriment, and the dinner was followed by a number of speeches in which much good feeling was manifested.

DUNLOP TIRE PROFITS.

AT the last annual meeting of the shareholders of the Dunlop Pneumatic Tyre Co., Limited, the directors reported a total profit for the business year ended September 30, 1901, of £237,569, which, added to the balance from the preceding year, amounted to £401,324. The dividends recommended amounted to 10 per cent. on the preferred shares (£48,390) and 5 per cent. on the ordinary shares (£26,484). After meeting the interest on debentures, and other fixed charges, there remained £178,580 to be carried over. Of the above income, £81,360 was derived from investments of the company's reserve fund. The profits on trading by the Société Française des Pneumatiques Dunlop, Limited, for the same period, including interest on investments, were £16,772, allowing of 12 per cent. in dividends on the preferred shares and 15 per cent. on the ordinary.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED DECEMBER 31, 1901.

- NO. 689,852. Vehicle tire. John W. D. Carslaw, Chicago, Illinois, assignor to the Union Tire and Rubber Co.
 689,972. Syringe. Alcinous B. Jamison, New York city.
 689,977. Elastic tread rocker. Ellsworth J. Light, Pittsfield, Massachusetts.
 689,987. Nursing nipple. David Pick, Salzburg, Austria-Hungary.
 690,192. Tire or other valve. George H. F. Schrader, New York City.
 690,231. Hoof pad. John Campbell, New York city.
 690,250. Process of making waterproof and air-tight fabrics. Warren A. Durbin, Woodville, Wisconsin.
 690,287. Cushion tire. Charles Hird, Woonsocket, Rhode Island, assignor of 49/100 to Patrick J. McCarthy, Providence, R. I.
 690,353. Machine for cross wrapping rubber hose preparatory to vulcanization. Frank H. Brewster, Derby, Connecticut, assignor to Birmingham Iron Foundry.

Design Patents.

- 35,493-35,494. Rubber eraser. Byron B. Goldsmith, New York city.
 35,497. Invalid cushion. Christian William Meinecke, Jersey City, New Jersey, assignor to Meinecke & Co., New York.

ISSUED JANUARY 7, 1902.

- 690,482. Hoof pad. August C. Tappe, Cincinnati, Ohio.
 690,604. Rubber vehicle tire. Raymond B. Price, Chicago, Illinois.
 690,605. Striking bag. Walter H. Price, Brockton, Massachusetts, assignor to Stall & Dean Manufacturing Co., Brockton.
 690,663. Appliance for swimmers. Harry Pratt, Kenilworth, Illinois.
 690,706. Pneumatic tire protector. Clarence G. Dinsmore, Staatsburg, New York.
 690,719. Dress shield. Martha B. Gault, Cincinnati, Ohio.
 690,819. Hose mender. William C. Anderson, Detroit, Mich., assignor to Buckley-Hart Manufacturing Co., Detroit.
 690,868. Process of waterproofing fabrics. James Menzies, London, England.
 690,908. Vehicle wheel tire. Johann Ludwig, Mayence, Germany, assignor of one half to Ferdinand Sichel, Mayence.

Trade Marks.

- 37,606. Dress shields. I. B. Kleinert Rubber Co., New York city. Essential feature—A keystone with a representation of a dress shield thereon.
 37,627. Rubber hose, belting, packing, and gaskets. New York Belting and Packing Co., Limited. Essential feature—the word "Vulcan."

ISSUED JANUARY 14, 1902.

- 690,935. Pneumatic tire. Alfred Ducashle, Paris, France.
 690,984. Horseshoe. John M. Myers, Louisville, Kentucky.
 691,028. Rubber tire equipment for vehicle wheels. John G. Webb, Springfield, Ohio, assignor to the Victor Rubber Co., Springfield.
 691,111. Hoof pad. John Campbell, New York city.
 691,118. Inflatable articles. Charles W. Curlin, Hickman, Kentucky.
 691,153. Life saving apparatus. Icilius W. Maccolini, Inwood, New York.
 691,341. Life preserver. Charles Gore, San Francisco, California.

ISSUED JANUARY 21, 1902.

- 691,390. Horseshoe. Thomas F. Kenney, La Crosse, Wisconsin, assignor of one half to Herman C. Scharpf and Frank G. Roth, La Crosse.
 691,440. Hose supporter. James B. Carolin, Newark, New Jersey.
 691,467. Vehicle wheel and tire. Charles Howells, New York city.
 691,574. Elastic tire. Joseph Baier and Emily Clark, London, England.
 691,589. Tire. Mary E. Brooke, Denver, Colorado.
 691,698. Vaginal syringe. Richard H. Eddy and Joseph B. Johnston, Providence, Rhode Island.

Trade Marks.

- 37,665. Syringes. Tyler Rubber Co., Andover, Mass. Essential feature—the word "Homestead."

ISSUED JANUARY 28, 1902.

692,010. Kid glove cleaner and process of making same. Herman Gottschalk, Chicago, Illinois.

692,056. Rubber tire. Alvaro S. Krotz, Springfield, Ohio, assignor to Consolidated Rubber Tire Co.

Design Patents.

35,621. Horseshoe pad. John Anson Buck and George Hassler, New York city.

Trade Marks.

37,673. Waterproof cloths, silks, and other textile fabrics. International Waterproofing Co., Chicago, Illinois. Essential feature the word "Circlette."

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE ENGLISH PATENT RECORD.

APPLICATIONS.—1901.

23,946. John William Hartley, Stone Staffs. Golf balls and golf ball molds. November 25.

23,877. Edward John Buckingham, 82, Mark Lane, London. Vehicle wheel tires. November 25.

23,881. George Wilson Langley, 111, Hatton garden, London. Sprays for shower baths. November 25.

23,932. Edward Head, 166, Fleet street, London. Method of securing rubber tires to wheels of vehicles. November 25.

23,933. Frederick Symons, 46, Lincoln's Inn Fields, London. Horse-shoes and cushions therefor. November 25.

24,062. Frank Schmitz, 18, Buckingham street, Strand, London. Elastic hubs and axles. November 26.

24,068. Charles Louis Cuthbe and Robert Maxton, Albion buildings, Aldersgate street, London. Strip to repair and strengthen cycle tire covers. November 27.

24,129. Frank Pitter Bailey, 55, Chancery lane, London. Puncture preventing strips or bands for pneumatic tires and other purposes. November 27.

24,202. Hugh Taylor Stephens, 185, Fleet street, London. Means for repairing pneumatic and other tires. November 28.

24,207. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Pneumatic tires. [Punctnot Tire Co., United States.] November 28.

24,241. William James Lawson, The Broadway, Walham Green, London. Hose reels. November 29.

24,305. Louis Albert Levin, 31, Cannon street, London. Elastic shoe heels. November 29.

24,309. Albert de Laski, 31, Cannon street, London. Vehicle tire. [Communication from the United States.] November 29.

24,461. John Hancock Nunn and Nevill Grange, Bream's buildings, Chancery lane, London. Rubber tires for carriages. December 2.

24,475. Henry Lee Carter, 18, Buckingham street, Strand, London. Elastic plaster. December 2.

24,522. Herbert John Dowsing, 115, Cannon street, London. Exercising and developing apparatus. December 2.

24,590. Adolph Gentsch, Birkbeck Bank chambers, Southampton buildings, Chancery lane, London. Substitute for Gutta-percha. December 3.

24,601. John Franklyn Videtto, 11, Southampton buildings, Chancery lane, London. Elastic heel lift for boots and shoes. December 3.

24,622. Alfred Julius Boulton, 111, Hatton garden, London. Leather outer covers for pneumatic tires. [Sebastiano Boccardo, Italy.] December 3.

24,660. George Walter Dawes. Ernest Fenton Dawson, and Alfred Ernest Hubbard, Manchester. Pneumatic tires. December 4.

24,728. Harry Lucas, 18, Southampton buildings, Chancery lane, London. Valves for pneumatic tires. December 4.

24,763. Thomas Eyton Truss and George Henry Moore, Chester. The "Truss Moore" rubber preservative. December 5.

24,833. Charles Herman Paschke, 53, Chancery lane, London. Elastic tires for bicycles and vehicles. December 5.

24,842. Jean Jacques Segulier, 72, Cannon street, London. Syringe. December 5.

24,911. Henri Falconnet and Maurice Perodeand, Liverpool. Air tubes for pneumatic tires. December 6.

24,912. *Same*. Improvements in tire covers. December 6.

24,924. Charles Hind, 11, Southampton buildings, Chancery lane, London. Tires for vehicle wheels. December 6.

24,935. Frederick Kubleman, of the Ungarische Gummuvarenfabriks, Actiengesellschaft, Finsbury, London. India-rubber dolls and figures. December 6.

24,980. William Cordeaux, Green Lane, Selby. Prevention of puncture of pneumatic tires. December 7.

25,021. Percy William Henri Gray, 3, Philip lane, Wood street, London. Composition for golf balls. December 7.

25,068. William Henry Josiah White, Crofton Park, Brockley, London. Puncture proof band and pneumatic tire strengthener. December 9.

25,154. William Mathews Savours, 77, Colmore row, Birmingham. Pneumatic tires. December 10.

25,517. William Phillips Thompson, 322, High Holborn, London. Method of securing pneumatic tire covers. (Jean Paul Le Grand, France.) December 13.

25,640. John Adair, Waterford. Pneumatic tire. December 16.

25,642. Alexander Latimer, Birmingham. Method of attaching pneumatic tire covers. December 16.

25,737. Robert Coulter, Leeds. Rainproof or waterproof garments. December 17.

25,755. Bernard Mervyn Drake and John Marshall Gorham, 66, Victoria street, Westminster, London. Vehicle tires. December 17.

25,800. Charles Edward Adolphus Esse, Liverpool. Pneumatic inner tubes of tires. December 17.

25,819. Mary Dawson, 10, St. George's Crescent, Liverpool. Pneumatic tires. December 18.

25,823. George Walter Dawes, Manchester. Outer covers for pneumatic tires of cycles and vehicles. December 18.

25,829. James Major, Manchester. Apparatus for locating punctures in pneumatic tires. December 18.

25,850. Frank Mousley, Birmingham. Valves for footballs, tires and the like. December 18.

25,969. Louis Peter, 53, Chancery lane, London. Means of securing elastic tires to motor wheels. December 19.

26,042. Henry Norton Butler Good, 65, Chancery lane, London. Pneumatic tires. December 20.

26,190. William Corser, 8, Lombard chambers, Liverpool. Pneumatic tires. December 23.

26,279. Francis Alban Byrne and George Boardman. Method of attaching India rubber soles and heels to boots and shoes. December 24.

26,331. Frank Mitchell, 23, Southampton buildings, Chancery lane, London. Pneumatic tires. December 24.

26,445. Alfred Ernest Walker and Charles Macintosh & Co., Limited. Tires for vehicles. December 27.

26,636. Leopold Sharpe, 8, Far Wharf, Lincoln. Celluloid puncture proof protector. December 30.

26,656. John Henry Wright and Samuel Simpkin, Wolverhampton. Pneumatic horse collar. December 31.

26,709. Jules Compin and Eugene Flachot, 53, Chancery lane, London. Elastic tires. December 31.

PATENTS GRANTED.—APPLICATIONS OF 1900.

13,886. Printing with rubber types or blocks. Bowley, J. W., 34, Baunstead street, Leeds, Yorkshire. August 2, 1901.

14,210. Horseshoes. [Kennedy, W. M., and Duncan, R. C., Franklin, Pennsylvania, United States.] August 8, 1901.

14,544. Metal and rubber tire. Price, R. B., and Calumet Tire Rubber Co., Chicago, United States. August 14, 1901.

14,545. Rubber tires. *Same*. August 14, 1901.

14,563. Knee and elbow caps. Gorse, F. W., Needham, Massachusetts, United States. August 14, 1901.

14,577. Syringes. Valentine, W. S., No. 71 Broadway, New York, United States. August 14, 1901.

14,579. Rubber tire. Hilton, E. M., Hilton, J. S., and Hilton, W. W., Merriman, R. M., and Pfeiffer, J., Akron, Ohio, United States. August 14, 1901.

14,643. Pneumatic tire. Lecreq, P. A., Bolbec (Seine-Inferieure), France. August 15, 1901.

14,849. Pneumatic tire cover. Large, E., Birmingham. August 20, 1901.

15,083. Inflating valves. Way, L., 19, via Barole, Turin, Italy. August 23, 1901.

15,126. Inflated collars for drivers' helmets. Blake, J. H., 86 Grange road, Bermondsey, London. August 24, 1901.

15,142. Pneumatic tire. Watson, J., Birmingham. August 25, 1901.

15,221. Method of attaching tire to rim. Hopton, A., 124, Euston road, London. August 27, 1901.

15,471. Pneumatic tire. Gray, C. H., Silvertown. August 30, 1901.

15,685. Teething pads, rings, and the like. Stewart, R. P., Kirkintilloch, Dumbartonshire. September 4, 1901.



RUBBER GOODS

Our three brands,—single, double and triple diamond,—correspond to three qualities. A single diamond means "Carbon" grade—a good article; a double diamond means "Double Diamond" grade—a fine article; a triple diamond means "1846 Para" grade—a splendid article and the best we can make. Our brands on hose, belting, packing

*Belting,
Garden Hose,
Water Hose,
Fire Hose,
Suction Hose,
Steam Hose,
Air Hose,
Tubing,
Rod Packing,*

and other rubber goods are guarantees of high quality and long service.

Chicago,150 Lake St.
St. Louis,411 No. Third St.
San Francisco, 509 Market St.
Boston,24 Summer St.
Philadelphia, 724 Chestnut St.

*C. I. Packing,
Ruby Packing,
Gaskets,
Valves,
Rubber Tiling,
Rubber Matting,
Emery Wheels,
Specialties,
Vehicle Tires.*

NEW YORK BELTING & PACKING CO. LTD

PIONEERS AND LEADERS—25 PARK PLACE, NEW YORK.

Mention The India Rubber World when you write.

ECCE SIGNUM.



THOROUGHLY RELIABLE.

The policy of furnishing on'y the finest goods that can be produced with perfect materials, latest and best machinery, and highly skilled workmen of long experience, has been, is now, and will continue to be, the policy of

The Mechanical Rubber Company,

CHICAGO, ILL.

Branch Store, No. 1810 Blake Street, Denver, Colo., where we carry a full line of goods.

Manufacturers of all kinds of rubber goods for mechanical uses—Hose, Belting, Packing, Gaskets, Bicycle Tires, Specialties, Moulded Goods, Etc., Etc.

If you are unable to satisfy your trade with goods you are supplying,
If you are in search of good goods at fair prices,
If you cannot get quick deliveries,
If you are not getting fair value for your money,
IN ANY EVENT,

SEND TO US FOR SAMPLES AND QUOTATIONS.
WE CAN SUIT YOU EVERY WAY.

FACTORY, GRAND AVE. & ROCKWELL STS

THE MECHANICAL RUBBER CO., 230 Randolph St., Chicago, Ill.

Mention the India Rubber World when you write

THE RETAIL SHOE DEALERS AND RUBBERS.

ON February 6 was organized in Boston a Retail Shoe Dealers' National Association, at a well attended meeting, the credit for which belongs to the *Boot and Shoe Recorder*, whose proprietor, Mr. W. L. Terhune, called the meeting to order. The need of such an organization had been felt in the trade since the old National Retail Shoe Dealers' Association ceased to exist in 1891, and the recent call for a meeting was responded to by about 300 retailers and representatives of manufacturing and jobbing concerns. The business sessions of the convention were devoted to an enthusiastic exchange of opinions on topics pertinent to the trade, and followed by a banquet at the Hotel Brunswick. The officers chosen were:

President—Sherman Collins, Ithaca, New York.

Vice President—E. H. Keizer, Mansfield, Ohio.

Secretary—F. W. Gilbert, Somerville, Massachusetts.

Treasurer—Joseph Boucher, Woonsocket, Rhode Island.

Executive Committee—H. E. Hagan, Boston; James O'Sullivan, Lowell, Mass.; C. N. Buchell, New Bedford, Mass.; M. F. Cosgrove, Worcester, Mass.; J. H. Murphy, Boston.

Many references to the rubber shoe trade were made during the proceedings, including one address by a retail shoe dealer of Boston, the salient portions of which follow:

SOME VIEWS ON THE RUBBER SITUATION.

BY H. E. HAGAN.

EVER since I entered the retail shoe business the rubber question has been the bugaboo of the retail shoe man. In the early days of midsummer the wily salesman comes to hand and he tells you of that advance in price that is bound to come, and he generally books an order. And then the innocent shoe man, if he is a retailer with visions of the profits in store for him, complacently folds his arms and waits for the snowstorm that never comes, particularly if he does business in Boston. Before he knows it December 1 is round, and then he writes or sees his rubber man, and it is the same old story, no snow no money. So it goes on year after year—we do not seem to profit by the experience of the past.

Perhaps the presumption is that you men are all plentifully supplied with capital, but there is a great host of shoe men all over this country and your proceedings will be reported in the *Recorder*, and these men will see what you have done, and it is to them that I am talking now.

Let's not do it any more; let's buy rubbers as intelligently as we buy leather goods. Provide in the early summer time for the early snowstorm. That is the harvest week for shoe men. Buy enough for that and then stop, and then buy from hand to mouth. Don't load up again. Better let the price of goods go up and you pay it rather than buy too heavy. We buy too heavily of both leather and rubber goods. The hardest factor in my mind that the retail shoe man has to contend with is to say no, for the salesmen are all good fellows.

It is a chronic statement with the retail shoe man that he does not make any money on rubber goods, and he certainly does not make as much as he ought to. This year it was a little different; not because the United States Rubber Co. loved him, but because they hated the other fellow more. It is not the fault of the United States Rubber Co.; you have got yourselves to blame. You don't put profit enough on your goods. You know and I know that men in the small towns or suburbs of small cities sell rubber goods at less price than the high grade men in the center of the city. It may be, and is

to quite an extent, true that a man or a woman may go to the large city to buy their footwear, but when they wake up some morning and find a big snow storm, then they think of your store, and you should get your profit then. If you will slash, do it when the ground is clear and when people don't want your goods at any price.

What I am going to say will tread on the toes of my friends in the rubber business. It is an unfortunate circumstance that they have planted the rubber men at this table, and I believe each one has a gun. To my mind the men who control the destiny of the United States Rubber Co. do not intelligently grasp the situation from the retailers' standpoint. In discussing this question from the retailers' standpoint, I want to take up the question of production. You and I have attended auction sales in this city in the past. What do we find at rubber sales? As a whole, it is rubbers out of style. The presumption is they could not be sold at a profit and therefore they were sold at a loss. Somebody took that loss, and it reduced somebody's profit just so much. Take last season in this city. I am told by a representative of one of the largest rubber houses that during the month of December they might have sold \$70,000 worth of goods if they had had the size that would fit your customers' shoes and mine. They had rubbers galore, but they did not have what we wanted. There was a period of two or three weeks when I could not get rubbers in this city for any price that would fit the shoes they were supposed to fit. Why did not the men who control the production look ahead and see what the prevailing styles were to be, and then make a large quantity of rubbers in those styles? It is a loss that can be avoided.

There is a question of distribution. I am not going to over-paint or overdraw this picture. I am going to state conditions as they exist in this city, and I believe the same conditions exist in all large centers of distribution. We have in this city four exclusive rubber houses, each carrying a special brand and all controlled by the United States Rubber Co. The money from all eventually finds its way into the box. But these four houses pay rent for four stores. They are under the management of high salaried men. Each has a separate corps of salesmen and clerks. There is a tremendous expense of cartage to and from the various depots. To my mind the proper distribution of rubbers can be made through leather jobbers. They send their representatives wherever a man opens a shoe store. They can sell rubber goods at no more expense when they are selling the leather goods. If the United States company must distribute their own rubbers why can they not do it with one set of men and one store under one management? Then the items of expense would find their way to the proper side of the ledger and the rubber people would stop saying that they do not make money. But what good is that going to do the retailer? I don't know as it would do him any good. But if we could as an organization by any method get them to give the retailer a small percentage of the saving we could save some money and they would not lose anything by the transaction.

Ask the rubber man why this condition exists and he will tell you that all retailers want the various brands. There may be some locations in which it was so when these various companies were all rivals in striving for business, but that condition does not exist to-day. I have seen two retailers each marvel how the other man could sell a special brand of rub-

bers. The feeling is the prejudice of the retailer; he thinks he cannot sell but one brand of rubbers although his competitor sells another and does equally as well. I believe the day has gone by for branded goods in this era of combination, when we know the combination as it is. If they must brand, brand them first quality and second quality. I have done business in this city in three different sections, with the poorest class, with the middle class, and where the best classes congregate. I therefore feel, as far as Boston is concerned, I know something of the ideas of the people here. When you buy rubber goods you buy that grade that the location calls for. I want to say now in all sincerity that in my experience that there is not one man in ten or one woman in fifty who enters my store who knows or cares what brand is on the goods. They want a pair of rubbers to fit their shoes and if they don't want first quality that will pay you a profit, then have the second quality which you can sell at their price and still make a profit. A good many retailers insist that they will carry nothing but first class rubbers. Why not follow it along and carry nothing but \$5 shoes? They carry different grades of shoes, why not carry different grades of rubber footwear?

If it is in our power as an organization to get the men who control the destinies of the United States Rubber Co. to give this business proposition proper business attention, I think it is possible we can get the dating of bills January 1. Then if we do not get our snowstorm we will get the Christmas trade, and the United States Rubber Co. would not suffer much, for they do not get their money anyhow until that time. My idea is that if they will intelligently grasp the situation we can get a small percentage more profit on our goods. If we can do this, this meeting in Boston will not be in vain.

A REQUEST TO THE RUBBER COMPANIES.

AMONG the questions discussed was the desirability of having rubber footwear sized to correspond with leather goods. As one member said: "Children's shoes, kid goods run from 8½ to 11; rubbers run from 4 to 10½; we have a four to 8 infants' shoe; we have no 4 to 8 infants' rubbers. Our children's rubbers only run to 10½, where leather goods run to 11. They should be uniform." A motion was adopted, instructing the executive committee of the association to consult with the rubber shoe manufacturers on this point. The same motion expressed a desire that some arrangements should be made for holding the prices of rubber footwear at the same figures from the beginning to the end of the season. A separate motion, made by the Mr. Hagan named above, was carried as follows:

I move that we, as an organization through our secretary and our executive committee, endeavor to bring influence enough to bear upon the United States Rubber Co. to have our rubber bills dated January 1 instead of December 1.

THE PRACTICAL JOKER AT WORK.

THE Worcester (Mass.) *Telegram* gives space to a report that "the Woonsocket Rubber Co. and the Boston Rubber Shoe Co. contemplate forming a company independent of the trust."

The Baltimore *American* lately reported the presence in that city of "a number of New York capitalists, representing some of the very richest men in the metropolis," "relative to starting a rubber factory in Baltimore, where it is proposed to manufacture every variety of rubber goods."

In Poland and Lithuania, says an exchange, there is a very large export from Russia of old goloshes, which are subsequently melted down and made into new goloshes and other India-rubber goods.

ANSWERS TO CORRESPONDENTS.

INQUIRIES reach THE INDIA RUBBER WORLD almost daily for reading matter relating to the practicability of planting rubber, the most desirable locations, the best methods of procedure, and so on. We can refer to no other publication that has contained so much information on the subject, applicable outside of the Far East, as THE INDIA RUBBER WORLD. Specific inquiries will be answered, as far as possible, but the general subject is too broad to be covered, either in letters or in single article in a trade journal.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Referring to the report on "The Balata Movement," in your issue of January 1 [page 126], may I ask if that was *sheet* or *block* Balata?
H.

THE report referred to Venezuela. While it failed to distinguish between sheet and block, we understand that very little sheet Balata is shipped from that country, it being cheaper to boil the sap in mass than to dry it in the sun, in thin sheets.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I read in your December 1 issue [page 73] that the United States consul at Leipsic reports that a recently patented insulating material is made by taking pulverized casein and mixing it with vegetable oils. Can you inform me where I can get a copy of this report?
M. B.

THE consular report gives no further details than were mentioned in our paper. An unverified report reaches us that the patents have come into the possession of the Vereinigte Gummiwaaren-Fabriken, Harburg a/d Elbe, Germany.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am desirous of learning the date and number of the United States patent covering what is known as Kiel's compound, and to whom issued, and whether the same has expired.
C. O.

JULY 24, 1890, to William Kiel, Butler, New Jersey. No. 430,958, for "vulcanized plastic compound"; No. 430,959, for "process of manufacturing vulcanized plastic compounds." The same expire in 1907.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Is there any market in this country for worn rubber pump valves? We are constantly discarding a number of these, and have thought that we might possibly dispose of them.
B. A.

IN the scrap rubber trade rubber pump valves are included in the general classification of "black heavy rubber," for which the price of late has been 4 to 5 cents a pound. Sometimes small lots of valve scrap are offered separately, but as a rule the quantities handled are too small to form a separate class of goods. While fluctuations in rubber shoe scrap prices are frequent, the market for black heavy rubber is little affected by them.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I enclose a newspaper clipping: "An India rubber gatherer in Brazil averages 16 pounds of juice daily." Kindly tell me if this estimate is correct, and what is the percentage to a pound of juice.
H. W. B.

THE amount of rubber collected daily, on well paying *estradas*, ranges from 5 to 20 pounds per man. The percentage of dry rubber is 50 to 60 of the total weight of *latex*. The average collection of rubber, therefore, is probably a good deal less than 16 pounds of sap daily per man. But since our correspondent probably is concerned about planting the *Castilloa elastica*—a different species—in Mexico, it may be mentioned that this tree yields its product, of 2 pounds or more of dry rubber, at one or two tappings a year, whereas the Brazilian rubber tree has to be bled every day or two throughout the season to produce the same amount. Ten or more Mexican trees can be tapped in a day.

DEATHS IN THE RUBBER TRADE.

JOHN C. EVANS.

ON February 5 John C. Evans, president of the Milltown India Rubber Co., died at his home in Milltown, N. J., of congestion of the brain, after a very brief illness, in his forty-

seventh year. He died in his native town, in which he had become a central figure and its most prominent citizen, besides being widely known and liked in the rubber trade, with which he had been connected all his life.

The father of the deceased, John Evans, was born in 1827, and is on record as having been in the employment of Ford

& Co., India-rubber manufacturers, at Milltown, as early as 1846. He probably was connected with that factory from its establishment, in 1845. In time the Meyer Rubber Co. was established at Milltown by Christopher Meyer, who became the most prominent figure in the rubber industry, and later the business of Ford & Co. was merged with it. John Evans, whose sister Mr. Meyer had married, became the superintendent of the Meyer factory in 1855, succeeding L. L. Hyatt—who still lives, in London—and remained in that position until his death, in the early eighties. John C. Evans began his education in the Milltown public schools and attended the Rutgers preparatory school at New Brunswick and the Pennington and Hackettstown academies. On October 19, 1874, he entered the Meyer factory, where he remained until after the death of his father, when he succeeded to the position of superintendent, retaining the same until May 1, 1899. Mr. Evans has stated to THE INDIA RUBBER WORLD that during the ten years preceding the death of Christopher Meyer, the president of the company, in 1888, their profits averaged at least \$150,000 a year, on a capital of \$200,000. The Meyer factory was acquired by the United States Rubber Co., and finally closed, its product being combined with that of the New Jersey Rubber Shoe Co., at New Brunswick.

The village of Milltown being thus deprived of its leading industry, and the population being composed largely of trained rubber workers who owned their homes, and were not disposed either to engage in another industry or leave Milltown, Mr. Evans led a movement to establish a new rubber shoe factory there. Through his efforts the Milltown India Rubber Co., with \$200,000 capital, was organized, and a well equipped factory erected, which was formally opened August 27, 1900, with Mr. Evans as president and general manager. The leading business men of the village became stockholders, as also did some of the employes, the idea being in a measure to make the company a coöperative affair.

Mr. Evans was a director of the National Bank of New Jersey, vice president of the New Brunswick Savings Institution, director of the Milltown Building and Loan Association, president of the Milltown board of education, and a trustee of the

Methodist Episcopal church at Milltown. He was elected mayor of Milltown when that borough was first organized and served until early in 1901, when he declined a renomination. He was a member of the Union Club, of New Brunswick.

On October 22, 1885, Mr. Evans was married to Miss Mary Austin, of New Haven, Connecticut, who survives, with five children—John, Marie, Herbert, Austin, and Gladys. The celebration of the fifteenth anniversary of their wedding, in 1900, was largely attended by their friends, from near and far. Mr. Evans leaves a brother, Alfred Evans, of Indianapolis, Indiana, and four sisters, who live in Milltown and New Brunswick.

WILLIAM H. SALISBURY.

THE veteran rubber man, William H. Salisbury, died in Chicago, on February 19, at the ripe age of 85 years. He was born in Springfield, Vermont, August 17, 1817, and was the oldest son

of General Moses B. Salisbury. His parents were natives of Rhode Island, and when the son had reached the age of two years, they returned to their native state, where his youth and early manhood was passed. At a very early age he manifested a marked taste for mechanical pursuits. When twelve years old he built a top

buggy which was really the forerunner of an exceedingly popular type of vehicle, for in those days the only covered carriages were the old fashioned one horse chaise—all four wheelers being open vehicles. This was only one of many ingenious mechanical triumphs that he scored. At the age of fourteen, while attending the village school, he drew plans for a church which was about to be built, and which, being discovered by the schoolmaster, were shown to the building committee and adopted as better than the architectural plans which they were considering. When he was sixteen years old his father sent him to Connecticut at the head of a force of mechanics to put a woolen mill in running order. Here he conceived the idea of substituting the main driving belts for upright shafting and bevel gears. At this he was successful, and it is a matter of history that this was the first mill operated in this way in the United States, and probably in the world. During the next four years he was busy in building and equipping woolen mills, in which business he was in practical partnership with his father. During that time he invented many machines and devised many plans for woolen machinery.

In 1837, or when Mr. Salisbury was twenty years of age, the woolen business being depressed, he gave that up and associated himself with William G. Angel, of Providence, and put up a plant for the manufacture of wood screws, in which business he became very successful. In 1849 he went into the business of contracting and building in Providence. While there he became acquainted with a wealthy resident of Augusta, Georgia, who persuaded him to go to the latter city under a three years' contract, where he erected many fine build-



ings. He then went into a mercantile business in the South, which lasted until the eve of the civil war. Believing that this would be disastrous to his business, he sold his southern holdings to his partners, taking a small amount in gold and the rest in notes, and returned to the North. Before the maturity of these notes the Confederate government confiscated them, so that they became to him an entire loss. He then built the Wanskuck woolen mills, in Rhode Island, and having thoroughly equipped them, accepted the agency of the Great Washington Mills Corporation at Lawrence, Massachusetts, the date of acceptance being July 1, 1865. The mills had not been operated successfully, but from the first he ran them so that they paid dividends. It was here that he introduced the manufacture of worsted goods being the pioneer in that respect in the United States.

Mr. Salisbury remained as agent for the Washington mills for nine years, when, on not agreeing with some of the directors as to the policy which should be followed, he resigned and went to Chicago, entering the house of Hallock, Holmes & Co. which became Salisbury & Cline, and later William H. Salisbury & Co. The old house was agent for the Boston Rubber Shoe Co. and the Boston Belting Co. On its dissolution, Hallock and Holmes kept the Boston Rubber Shoe Co.'s account, while William H. Salisbury & Co. took that of the Boston Belting Co. Mr. Salisbury continued as active head of the business almost up to the day of his last illness. He was physically and mentally a remarkable man of the best New England type, and was known perhaps as widely as any business man connected with the rubber trade. Mr. Salisbury left a widow and four sons and three daughters. His son, Mr. Warren H. Salisbury, succeeds as active head of the concern. Funeral services were held in Chicago on February 20, and in Providence on February 22.

The interment was at Swan Point cemetery, about 3½ miles from Providence. There were present from the Salisbury family, Mrs. W. H. Salisbury, Mr. William Dexter Salisbury, Moses Brown Salisbury, Warren M. Salisbury, and George J. Quincey. Representing the Boston Belting Co. there were: James Bennett Forsyth, general manager; Thomas F. Forsyth, superintendent; John H. D. Smith, treasurer; George P. Whitmore, secretary. Malcolm McCole represented the Eureka Fire Hose Co., and William B. Lighton the Apsley Rubber Co. The Hon. L. D. Apsley, who was absent in New York, planned to be present, but missed connections through a railroad accident. The floral display was very large and beautiful, and the family are in receipt of expressions of sympathy and condolence from well known people in the trade all over the country.

THE LATE MR. FUJIKURA, OF JAPAN.

THE death of this important representative of the rubber industry in Japan has been recorded already in THE INDIA RUBBER WORLD, as having occurred on October 8 last. Mr. Zempachi Fujikura was born October 18, 1843, in the village of Tochigi-ken, which is about 40 miles from the city of Tokio and 36 miles from Nikko, the finest temple in Japan. He was the son of a farmer, but as he disliked that calling he started, at the age of twenty, a small flour mill, using a water power which was close to his home. That locality being notable for wheat growing, he had plenty of work, and not only did the milling himself but sold the product, going to Tokio twice a month. At the age of thirty-two he decided to remove permanently to Tokio, and closed the mill, becoming a manufacturer of ribbons and fancy goods. Later, when electricity was introduced into Japan, he began to experiment in the manufac-

ture of insulated wire. For this purpose he started a small factory in 1884, and that without knowing anything about the rubber business. It may be easily understood that he experienced many setbacks, but these were all overcome and he became the pioneer manufacturer of insulated wire in Japan.

It is interesting to note that the first idea he had of how rubber was compounded, he gleaned from an encyclopedia, and that it was only through constant experimenting and failure after failure that he succeeded. His first vulcanizer, used in 1893, was a kettle employed formerly in boiling rice. Later, when he had succeeded in compounding and vulcanizing rubber, he made his own washers, grinders, and rubber covering machine and in 1894 was able to fill a large contract for the Japanese government for insulated wires. After that his progress was rapid. In 1896 he was manufacturing all kinds of insulated wire needed for Japanese concerns, and he then bought a large tract of land and built a factory known as the Fujikura Insulated Wire Works. To-day his wires are used in every part of Japan and have also been quite largely exported.

In accordance with Mr. Fujikura's desire the funeral services were exceedingly simple, but in spite of this fact thousands of people assembled, and the testimonial letters from firms like the Oriental Rubber Co., the Tokio Electric Light Co., and large manufacturing concerns which were read at the ceremony testified to their appreciation of the man and his work. By the terms of his will quite an amount of his property was given to the poor, and he also generously remembered the public school in the village of his birth. His company, the Fujikura Insulated Wire Works, is now succeeded by the Fujikura Insulated Wire and Rubber Co., the business to be carried on by Mr. Tomekichi Matsumoto, his youngest brother. Mr. Fujikura held many offices of trust, among which he was a director in the Oriental Rubber Co. and in several prominent Japanese electrical firms.

SOME WANTS OF THE RUBBER TRADE.

[226] FROM a manufacturer of rubber packings: "We have to dispose of a quantity of C. B. S. sheet rubber scrap, in pieces of various sizes, which will cut circles ranging from ½ inch to 5 inches in diameter. Could you give us the names of any parties cutting small packings and specialties from such material?"

[227] From a coal and iron company, Birmingham, Alabama: "Is there a market in this country for worn pump valves? We are constantly discarding a number of these, and should like to dispose of the same, if possible."

[228] From a rubber factory: "We should like to know the names of some manufacturers of annealed glass tubes, such as used in the manufacture of certain kinds of rubber tubing and catheters."

[230] From Paris: "Will you be good enough to let us know who are the manufacturers of the 'Monarch' billiard cushions, and if there is an agency for them in Europe?"

[231] From a rubber factory: "We are in the market for some churns for mixing rubber cement, and would be much obliged if you would advise us where they can be purchased."

[232] Two English letters contain inquiries for the color "Yale Blue," which they mention having seen referred to in Mr. Pearson's book, "Crude Rubber and Compounding Ingredients," and ask whether the same can be purchased in Europe.

[233] "Kindly advise us where we may be able to purchase Holland, such as is used in the calendering of rubber, to give the same a smooth surface."

NEWS OF THE AMERICAN RUBBER TRADE.

PENNSYLVANIA WORKS TO MOVE.

THE Pennsylvania Rubber Co. (Erie, Pa.) have decided to build a new plant, at Jeannette, Pa., a point 26 miles from Pittsburgh, and widely known as a center of the glass industry. The demand for the company's goods has led to the working of their present plant night and day, and an urgent necessity exists for much larger facilities, which it has not been possible, conveniently, to install at Erie. Under these circumstances, a complete duplication of the present machinery was ordered five months ago, including the latest improvements, most of which has been completed and is now being delivered at Jeannette. There was some delay in getting a railroad switch located suitably at the latter point, but at last this obstacle has been removed, and a complete new factory is being pushed to completion as rapidly as possible. The boiler and engine plant are to be of four times the present capacity, and each department is being laid out with a view to its extension whenever desired, without regard to the rest of the factory. The new buildings are mostly of one story construction, having the modern saw tooth roof, with its northern light, and so laid out that the superintendent can survey nearly the whole interior from any part of the factory. The main building is 308 × 50 feet, three stories, with a basement 80 feet in length. The one story structure is 308 × 200 feet, with a basement 200 × 200 feet, for storage purposes. The plant at Erie will be run until the new factory is in operation, at which time it will be closed, and such machinery as may be needed at Jeannette will be removed there. The ground occupied at Jeannette consists of 21 acres, with a frontage on the main line of the Pennsylvania railroad of more than 1200 feet. An abundance of water can be obtained from Brush creek, which borders the property. The Pennsylvania Rubber Co. was incorporated May 26, 1899, and acquired the plant of the old Erie Rubber Co. The officers are: Herbert Du Puy, interested in the Pittsburgh steel trade, president; Frank A. Wilcox, formerly of the India Rubber Co. (Akron, Ohio), treasurer and general manager; Theron R. Palmer, formerly with The B. F. Goodrich Co., treasurer; and H. A. Palmer, formerly with the India Rubber Co., secretary.

UNITED STATES RUBBER CO.'S BOSTON OFFICES.

ON Monday, February 10, the Boston offices of the United States Rubber Co. were removed from Bedford street to the elegant new quarters prepared for them in the Converse building No. 101 Milk street. The new offices are in an addition recently made to the Converse building, and are on the same floor as the offices of the Boston Rubber Shoe Co., besides including the basement of the annex. The offices are very handsomely fitted in oak, and not only afford ample desk room for all, but have arrangements for the most complete sample rooms that can be imagined. The samples arranged for are a full line of all of the Woonsocket, Wales-Goodyear, Candee, Meyer, and National types of footwear, together with the American Rubber Co.'s footwear and clothing. A circular dated February 3 announces: "Mr. C. J. Pike, for many years connected with this company, having tendered his resignation, which has been accepted, Mr. C. B. Allen, selling agent of Woonsocket and Rhode Island brands, for some time associated with us at our Chicago office, has been placed in charge of our Boston agency. Mr. H. H. Perrin, who for some time assisted Mr. Pike, has been appointed selling agent of Wales-Goodyear and Connec-

tic brands."—Mr. Pike was one of the best known and most brilliant salesmen of rubber footwear in the country, for many years selling agent of the Wales-Goodyear Rubber Co., and later, one of the selling agents of the United States Rubber Co.

UNITED AND GLOBE RUBBER MANUFACTURING COS.

A PERMIT has been granted by the Trenton authorities for the erection of an additional building by the above corporation, to be of brick, two stories, 49×81 feet. For some time past the factory has lacked sufficient facilities for keeping up with the orders received.

METHUEN (MASS.) RUBBER CO.

THIS company, engaged for some time in manufacturing patent rubber insulators, was incorporated recently under Maine laws [see THE INDIA RUBBER WORLD, February 1—page 155], and is planning an increase of plant and extension of business. Richard P. Osgood is president, John D. Osgood, secretary, and E. J. Castle, treasurer. Besides, Benjamin G. Ward, of Portland, is clerk in the state of Maine, as required by the corporation laws there. The company has exported insulators to Europe, South America, and Australia.

MECHANICAL RUBBER CO.

DURING the month a call was issued for bonds of this company to the amount of \$11,958.75, for retirement, under the terms of the mortgage of January 1, 1893, which authorizes the trustees, at their discretion, to apply any moneys in the sinking fund to the purchase of the company's bonds.

UNITED STATES COTTON DUCK CORPORATION.

THE annual meeting of stockholders was held in Jersey City on January 21. At a meeting of the newly elected directors in New York, on January 31, the following officers were elected for one year:

Chairman Board of Directors—S. DAVIS WARFIELD, reelected.

President—TRENOR L. PARK, president of the American Trading Co., who was chosen in October last to succeed Richard Cromwell, reelected.

Vice Presidents—J. SPENCER TURNER and WILLIAM E. WELLINGTON, reelected; DAVID H. CARROLL, of Baltimore, to succeed James E. Hooper; and J. SOUTHGATE LEMMON, of Baltimore, making four instead of three vice presidents, as formerly.

Secretary—DAVID H. CARROLL, reelected.

Treasurer—CHARLES K. OLIVER, reelected.

Assistant Secretary—JOHN R. DORSEY, of Baltimore; a new office.

General Manager—JAMES E. HOOPER, president of the Mount Vernon-Woodberry Cotton Duck Co., Baltimore; a new office.

Executive Committee—S. Davies Warfield, E. A. Brinckerhoff, William H. Wellington, Thomas M. Turner, Sigmund Lehman—reelected; David H. Carroll, Thomas J. Hayward, Trenor L. Park, and C. K. Oliver.

The charter, dated June 4, 1901, authorizes a capital stock of \$50,000,000, of which \$26,100,000 was issued in respect to the cotton duck factories combined last year [see THE INDIA RUBBER WORLD, July 1, 1901—page 291]. At the meeting on January 31 it was resolved to retire stock held in the treasury, to the amount of \$10,000,000 each in preferred and common shares, thus reducing the capital of the company to \$30,000,000. This action was approved at a special meeting of stockholders at Jersey City, on February 14. At a meeting of the directors on the same day it was stated that the earnings from June 30 to December 31, 1901, had amounted to \$318,203, of which \$104,644 was contributed by the Stark, La Grange, and Hogansville mills, and \$211,758 by the Mount Vernon-Woodberry Cotton Duck Co. group of mills. The earnings of the latter group

during November and December alone were \$155,592. The directors considered as premature any action on dividends, however, until the company has been in operation twelve months. "The last year," they reported, "as is known, was perhaps the most unsatisfactory year cotton manufacturing concerns have experienced since 1884, and while more satisfactory conditions have now been reached, it has been deemed wise to proceed conservatively. The prominence in the general export trade of Mr. Park, who has become president of the Cotton Duck Corporation, may be regarded as evidence of a more vigorous foreign trade policy on the part of the company. Already the export of American cotton duck has attained large proportions. The J. Spencer Turner Co. (New York), selling agents for the corporation, maintain a London branch, and are advertising its products extensively in Europe.

The annual meeting of the Mount Vernon-Woodberry Cotton Duck Co. was held at Jersey City February 14, and directors chosen, after which the directors elected the following officers:

- Chairman Board of Directors—S. Davies Warfield.
- President and General Manager—James E. Hooker.
- Vice Presidents—J. Spencer Turner, and J. Southgate Lemmon.
- Treasurer—Charles K. Oliver.
- Secretary—D. H. Carroll.
- Executive Committee—Messrs. Warfield, Hooper, Lemmon, Oliver, Carroll, and James M. Barnard, and W. E. P. Duvall.

HARDMAN RUBBER CO.

THE annual reception of the employés of this company, at the factory, at Belleville, New Jersey, on the evening of February 10, was, as usual, highly enjoyed by those who took part. The spacious stockroom was tastefully decorated for the occasion, and the Messrs Hardman, Superintendent Schwerin, and the various foremen were present. Dancing and a collation were included in the program. The committee of arrangements comprised Thomas Murray, John Maguire, and Misses Katie McCoy, Lizzie Murphy, Annie Hood, Maggie Galvin and Katie Comesky.

CHANGES IN RUBBER BOOT PRICES.

THE United States Rubber Co., under date of February 18, announced changes in the gross prices of certain styles of men's boots, to take effect from January 1 last as follows:

All-Duck Short Boots.....	from \$5.10 to \$4.90
Duck-Vamp Hip Boots.....	from 6.75 to 6.65
Duck-Vamp Sporting Boots.....	from 6.75 to 6.65
Duck-Vamp Short Boots.....	from 4.75 to 4.60

AN ATTRACTIVE SOUVENIR.

FOR a number of years past The B. F. Goodrich Co. have given a souvenir picture that has been so appreciated that it has found place not only in the offices of those interested in rubber goods but at many times in their homes. The picture as a rule has been the likeness of a beautiful woman, with no suggestion of an advertisement about it, but every one remembers, however, that it is the gift of the Goodrich company. This year "Ruth" is sent out to the trade and is received with the same favor as her beautiful sisters have been. It is possible that THE INDIA RUBBER WORLD ought not to make this note, for the reason that the call for the picture has been so great that the generous supply has been practically exhausted.

BRASS GOODS FOR RUBBER HOSE.

THE H. B. Sherman Manufacturing Co. (Battle Creek, Michigan) have added to their already extensive plant machinery and patterns for the production of a complete line of brass goods for use in connection with hose. Their line now includes Sherman hose clamps, Sherman stamped brass hose couplings, regular pattern cast brass hose couplings, steam hose coup-

plings, automatic couplings, lawn hose sprinklers, and other articles pertaining to the hose trade. All the above articles are made from patterns in the designing of which great care and foresight has been used, with a view to the production of a class of goods superior to any others on the market. A large and varied stock of these goods will be carried, and the firm invite requests for their catalogues and prices.

WAREHOUSE RUBBER RECEIPTS.

AT the weekly auction sale of stocks and bonds held February 5 by Adrian H. Muller & Son (New York), there appeared in the list a number of warehouse receipts for crude rubber. In all the receipts called for about 230,000 pounds of various kinds. They were designated in the advertisement:

Warehouse receipts for—

24,270 pounds	fine old upriver Pará crude rubber.
3,960 "	medium old upriver Pará crude rubber.
40,520 "	African crude rubber (bales).
2,690 "	African crude rubber (bales).
18,400 "	Lopori ball African crude rubber.
117,360 "	fine old upriver Pará crude rubber.
24,480 "	medium old upriver Pará crude rubber.

As a result of the failure of the Crude Rubber Co., some interest was aroused in Wall street over the matter, as it was stated that some loans which had been made on the stock had been called and the rubber was consequently thrown on the market. But before the sale opened a notice of withdrawal was received by the auctioneers and the warehouse receipts were not offered.

STOUGHTON RUBBER CO.

AT last accounts, the carpenter work on the new factory buildings having been completed, the installation of machinery was in progress, the hope being entertained that the new plant would be in operation by March 1.

THE TRADING IN RUBBER STOCKS.

IMMEDIATELY after the first snowstorm in February there was increased activity in the trading in United States Rubber on the New York Stock Exchange, which was attributed in some quarters to the expected favorable effect of the weather upon earnings. But a Boston report is to the effect that the advance in prices "was believed to be due to manipulation on the part of a large New York operator, who is one of the largest stockholders of the company, his stock having been purchased at very much higher prices." While the recent weather, the advance in the price of rubbers, and the decline in the cost of crude rubber are all favorable to increased future earnings of the United States Rubber Co., their effect will not be apparent in the annual report for the current business year, which ends on March 31.—The record of Stock Exchange transactions follow:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Jan. 26	240.	14½	14	100	50⅞	50⅞
Week ending Feb. 1	3,305	15¼	14	640	51¾	50⅞
Week ending Feb. 8	2,840	15	14	135	51	51
Week ending Feb. 15	150	14	14	545	51¾	51½
Week ending Feb. 22	10,160	16⅞	14½	3,853	44¾	43¾

NATIONAL INDIA RUBBER CO.

THE second annual dinner to the company's foremen, clerks, and salesmen was given at DeWolf's Inn, in Bristol, on the evening of February 15. There were about 70 guests, with Colonel Samuel P. Colt, president of the company, and of the United States Rubber Co., at the head of the principal table. H. H. Shepard, general manager of the company, acted as toastmaster, and speeches were made by the two gentlemen named, and also by William Hodgkinson, assistant manager of the company; W. T. C. Wardwell, one of the directors; W.

De F. Brown, secretary; L. B. C. Colt, assistant superintendent; E. R. Burley, manager of the Chicago branch; and several others, including C. A. Emerson, of the United States Rubber Co. The menu was pleasing, the banquet room was beautifully decorated, and good music was provided.

WOONSOCKET RUBBER CO.

FREDERICK T. COMEE has resigned the superintendency of the boot factory at Millville, to take effect April 1. John Robson, superintendent of the "Alice" mill, at Woonsocket, is to be general superintendent of the two factories. The "Alice" mill is due to resume work on March 3. The Millville plant has also been idle for some time, new machinery being installed.

SNOW AND THE RUBBER SHOE TRADE.

THE February snowstorms had a most favorable effect upon the demand for rubber boots and shoes, though occurring at a period usually regarded as too late to counteract a shortage of snow in the early winter months. The territory covered by the snow was in the thickly settled upper Atlantic coast region—the best field in the country for the rubber shoe trade when the weather conditions are right. The official record of snowfall on February 17-18 was as follows, in inches:

Portland, Me.... 7.8	New York.... 9.3	Scranton..... 4.6
Boston.....11.	Albany..... 9.4	Philadelphia....10.8

But the official record does not always adequately express the amount of snowfall, from a practical standpoint. The depth of the fall in New York was estimated in the trade at 12 inches, and it was increased measurably two or three days later, before the city streets had been cleared and while the suburban districts were still snowed under. Earlier in the winter the combined snowfall in New York had amounted to about 10 inches.

As a result of the February weather, while the jobbing trade was little affected—a very large volume of goods having been distributed early in the season—retailers' stocks, in the district of which New York is the center, were very generally cleaned out. This opens the way for a good trade for the coming season when the jobbers will share the benefit of the late storms.

There were reports of snow storms from various other parts of the country during February, but nowhere to the same extent as along the Atlantic. The following is a summary of weather reports for the earlier months:

November 26.—Blizzard throughout northern New York; heavy snow at Malone; 6 inches at Plattsburgh and still falling.

December 3.—Heaviest snowfall in New England, at this season of the year, since 1898. Maine has had sleighing for a fortnight, and New Hampshire fields have been white for some time, but Massachusetts has been without snow worth mentioning until now.—Hoosick Falls, N. Y., heavy snowstorm all day.—Scranton, Shamokin, and Wilkesbarre, Pa., 8 to 10 inches.—Kansas City, heavy snow westward to the Rocky mountains.—Snow at Charlotte, N. C.

December 4.—Eastern half of Kansas covered.—Three to 6 inches heavy wet snow in Nebraska, Wyoming, and lower South Dakota.

December 5.—Charlotte, N. C., had second snow of the season.—Snow throughout middle and upper South Carolina.—More snow at Chattanooga, Tenn., than all last winter. Two inches at Holly Springs, Miss.

December 9.—Snow at Indianapolis, Indiana; estimated that 10,000 pairs of rubbers were retailed the next day.

December 12.—Heavy snow in Wisconsin; 4 inches at Osceola, and still falling.—Travel delayed in Colorado by snow in the mountains.—General snowstorm in Wyoming.

December 13.—Severe snowstorm in western Nebraska; 4 to 6 inches generally reported.—Storm throughout western Missouri, most of Kansas, and Oklahoma; snow in many places.

December 16.—Storm still raging in parts of Wyoming.—Snow in southeastern Nebraska.

December 18.—Four inches of snow in Nebraska.

MILLTOWN INDIA RUBBER CO.

At a meeting of the directors, at Milltown, New Jersey, on February 14, the vacancy in the board caused by the death of John C. Evans [see page 189 of this issue] was filled by the election of William Sanford, who also was appointed to the position of general manager. Mr. Sanford has had more than twenty years experience in the rubber shoe industry, having been superintendent of the New Brunswick Rubber Co.

RUBBER SUPPLIES FOR THE GOVERNMENT.

THE bureau of engraving and printing of the treasury department, at Washington, will receive bids until March 3 for the following rubber supplies, for the fiscal year beginning July 1: About 500 yards rubber cloth, 45 inches wide; same amount, 36 inches wide; 200 pounds rubber bands for truck wheels; 150 pairs men's rubber boots, friction lined.—The annual reports of the department of justice, at Washington, record in great detail the incidental expenses of that office. There were expended, for rubber goods, for the year ending June 30, 1901, the following sums:

Rubber stamps and type..\$ 63.86	Rubber coat.....\$ 5.00
Rubber bands (3384 gross) 231.20	Horseshoe pads..... 65.50
Rubber erasers..... 2 13	
Typewriter cushion keys.. 5.00	Total..... \$378.75
Cuspidor mats..... 5.60	

Besides which are entries of the purchase of a rubber tired vehicle, and items for the replacement and repairs of other tires.

NEW INCORPORATIONS.

THE H. P. & E. Day Co. (Seymour, Connecticut), December 31, 1901, under Connecticut laws; capital, \$40,000. Incorporators: Henry P. Day (199 shares) and Edmund Day (200 shares), both of Seymour; Harry G. Day (1 share), New Haven. The business to be continued by the above company was established in 1853 by the late Austin G. Day, a licensee under Nelson Goodyear's patent, for the manufacture of hard rubber pencils, penholders, and other stationer's articles. In 1858 Day obtained a hard rubber patent in his own name and ceased to pay a royalty under the Goodyear patent. The firm style of H. P. & E. Day has been in use for a number of years.

—The Inter-State Rubber Co. (Omaha, Nebraska), January 28, under Nebraska laws, to deal in rubber goods at wholesale and retail; capital, \$150,000. To succeed to the business of Zachary T. Lindsey, established in Omaha in 1886. The incorporators are Z. T. Lindsey, Eben H. Paine (of the United States Rubber Co.), and Carroll S. Montgomery. Mr. Lindsey is president, treasurer, and general manager of the new company, which would indicate that there will be little change in the conduct of the business.

—The Omaha Rubber Shoe Co. (Omaha, Nebraska), January 28, under Nebraska laws, to deal in rubber shoes at wholesale; capital, \$150,000. To succeed the firm of E. H. Sprague & Co., established April 1, 1897, an outgrowth of the Omaha branch of E. G. Stearns & Co. (Chicago). The incorporators are E. H. Sprague, Eben H. Paine (of the United States Rubber Co.) and Carroll S. Montgomery.

—The Detroit Rubber Co. (Detroit, Michigan), February 6, under Michigan laws; capital, paid in, \$25,000 in \$10 shares. To succeed the partnership firm of A. H. Krum & Co., jobbers of rubber boots and shoes. Incorporators: Albrun H. Krum,

2400 shares; Mans S. Peters, 50 shares; Eben H. Paine (of the United States Rubber Co.), 50 shares.

=Merchants' Rubber Co. (New York city), February 14, under New York laws; capital, \$25,000. Incorporators: William Morse, Hackensack, N. J.; Eben H. Paine, New York; Homer E. Sawyer, Malden, Mass. The new corporation, on March 1, succeeds to the business of William Morse & Co., established for ten years past at Nos. 70-72 Reade street, as jobbers of rubber footwear and clothing. Mr. Morse is president and manager; the other members of the corporation are connected with the United States Rubber Co.

=Hird Cushion Tire Co. (Providence, Rhode Island), December 15, under New Jersey laws; authorized capital, \$200,000. Incorporators: Louis B. Dailey, Clifford W. Perkins, and Aug. O. Meeker. The object of the company is to manufacture a new rubber vehicle tire of the cushion type, for which three patents have been issued to Charles Hird, of Woonsocket, Rhode Island. It is described as having a circular cellular core made of rubber molded in sectional lengths, placed within a casing of rubber, fabric, and braid. Mr. Hird is now negotiating for capital with which to exploit his invention.

=International Wheel, Tire, and Rubber Manufacturing Co. (New Brunswick, New Jersey), January 15, under New Jersey laws; authorized capital, \$3,000,000. Incorporators: William F. Ellis, Springfield, Mass.; Henry L. Prentice, New York city; William Sanford, New Brunswick; H. B. Schofield, Denver, Colorado; F. D. Palmer, Poughkeepsie, N. Y. The purpose is to manufacture a patented cushion tire, for bicycles and vehicles, known as the "Common Sense," patented by E. C. Davis and William F. Ellis, and illustrated in THE INDIA RUBBER WORLD March 1, 1901 [page 178]. Messrs. Davis and Ellis have also obtained a patent [No. 688,399—December 10, 1901] for a vehicle wheel, wire spokes, ball bearing, and with adjustable hub, so designed that the owner of several vehicles might use the same wheels on any one of them. The new company expects to sell tires separately, or wheels complete, and is in negotiation for a rubber factory. W. F. Ellis is president, F. D. Palmer secretary, and William Sanford (late of the New Brunswick Tire Co.), manager.

ANNUAL MEETINGS.

THE Warren Rubber Co., (Warren, Ohio), jobbers, January 27. Officers elected: H. H. Pierce, president and general manager; Richard Sibson, vice president; H. E. Pierce, secretary; E. F. Nash, treasurer.

=Rubber and Celluloid Harness Trimming Co. (Newark, New Jersey), January 13. Officers elected: Andrew Albright, president; Andrew Albright, Jr., vice president; Thomas M. Kays, secretary; William McMurtry, treasurer.

=La Crosse (Wisconsin) Rubber Mills Co., January 25. Officers re-elected: A. Hirshheimer, president; M. Funk, vice president; Albert P. Funk, secretary and treasurer; George S. Andrus, general manager.

=Tuscarora Rubber Co. (Beach City, Ohio), February 10-11. Officers elected: I. J. Miller, president; N. J. Hadley, vice president; J. O. Wilhelm, secretary; J. D. Martz, treasurer; S. F. Sweitzer, manager. Directors: The above and Rev. A. J. Houk and Anton Weigert.

TRADE NEWS NOTES.

THE E. H. Clapp Rubber Co. (Boston) are erecting a two story addition, 50x70 feet, to their factory buildings at Hanover, Massachusetts, to the great delight of the townspeople, who at one time heard rumors that the factory, which supports a good part of the population, might be removed to another locality.

=The Revere Rubber Co. (Boston) have entered suit in the United States circuit court for the southern district of New York, against the Consolidated Hoof Pad Co., for an injunction and accounting of profits and damages for their alleged infringement of the Kent patent of March 27, 1900, by the pad which they have placed on sale under the name "Air Cushion."

=The Robins Conveying Belt Co. (New York) are understood to have received an important order for their conveyors, for mining use, to be shipped to Fremantle, Australia.

=The Harper & Reynolds Co., of Los Angeles, California, are reported in a local newspaper to have received a consignment of 150,000 feet of hose, entirely of American production, including the rubber used, manufactured by the Bowers Rubber Co. (San Francisco).

=It seems likely that there is to be a considerable colony of Akron men in Liverpool, England. The Akron *Democrat* mentions the departure at one time of three men from that town who have accepted positions with the North Western Rubber Co., Limited, at Litherdale, near Liverpool, in which Akron capital is invested, and others are expected to follow. There are also several Akron men employed at the Liverpool factory of the Diamond Match Co.

=The annual report of the secretary of the board of trade of Hartford, Connecticut, states that 1901 was the most prosperous year in the history of the Hartford Rubber Works Co., their output, measured in money values, having been about 20 per cent. larger than in the preceding year.

=The Goodyear Tire and Rubber Co. (Akron, Ohio) announce that they are now licensed by Morgan & Wright (Chicago), under the patents held by the latter, to manufacture closed end inner tubes for double tube tires.

=The copartnership of H. N. Nice & Brothers, dealers in rubber goods, No. 1215 Filbert street, Philadelphia, was succeeded on February 1 by the copartnership of Nice & Gerhard (Harper N. Nice and William L. Gerhard), at the same address.

=The employes who stopped work in the Hood Rubber Co.'s factory last April are still "on strike," though practically all of them are said to have secured places elsewhere. They have organized Rubber Worker's Union No. 8622, at Cambridgeport, Massachusetts, with a reported membership of 400 men and women. They were addressed on February 9 by Samuel Gompers, president of the American Federation of Labor.

=The Trenton (New Jersey) *Times* says: "The year just closed was a most successful one for the rubber manufacturing industry in this city. One thousand men are now employed in this city in the manufacture of rubber goods."

=The Detroit (Michigan) *Trade* says: "The distribution of boots and shoes from Detroit during the past year has been very large, amounting in value to about \$5,000,000, or about 15 per cent. more than for the previous year." The distribution of rubber footwear increased proportionately.

=W. L. Kinsley, who has the reputation of being one of the most expert pattern makers in the line of rubber boots and shoes in the United States, has accepted a position with the Atlantic Rubber Shoe Co.

=H. L. Davis, for a year past manager of the New York house of the Whitman & Barnes Manufacturing Co., has resigned to take charge of the Chicago depot of the Home Rubber Co. Mr. Davis is a Chicago man, with many years experience in the sale of rubber goods in the western states.

=The Goodyear Tire and Rubber Co. have opened a depot for their detachable motor tires, at No. 127 Duane street, New York, in charge of H. J. Dingman.

=The Stein Double Cushion Tire Co., whose projected factory at Akron, Ohio, has been referred to in these columns, are understood to have been prevented by the severe weather from pushing work on the new buildings as rapidly as was planned, but they hope to be at work by May 1.

=Colton Fulton, of Trenton, New Jersey, sued the Grieb Rubber Co., of that city, for \$25,000 damages, for the loss of both hands while at work in their factory, and on February 1, a jury awarded him a verdict of \$6500. Fulton alleged that a shock from an improperly placed electric wire caused him to fall into a machine. The defense introduced electricians to prove that no fault should be found with the wires.

=The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, have appealed from the verdict for \$2000 awarded to Hugh McCaughertes, for injuries received in their factory, the details of which appeared in THE INDIA RUBBER WORLD for December.

=An attractive little pocket mirror with a celluloid back, on which is printed in color a fine cut of a varied assortment of mechanical rubber goods, is used by B. C. Tillinghast, No. 242 Market street, Philadelphia, to advertise his business.

=Fred. J. Rowell, formerly overseer in the United States Rubber Co.'s wool boot department at Woonsocket, R. I., has become overseer of spinning at the Rockfall Woolen Co.'s mill, Middletown, Conn.

=The annual ladies' night of the Framingham board of trade occurred on February 19, the entertainment being given at the factory of the Rubber Soled Leather Shoe Co., at South Framingham, Mass. The program included an examination of the company's machinery and processes, informal reception, addresses, lunches, and dancing.

=A dispatch from Lima, Peru, reports the arrest there of a Swiss-American accused under the name of Hermann Schneider and other names of negotiating forged drafts in Mexico and South America. His valise contained bills purporting to be drawn by important New York commercial houses on the Rothschilds, of London, and indorsed by the "New York Mahogany and Rubber Co."

=The Cleveland Rubber Works have sent out a very neat little pocket calendar, with much valuable information on it, and some very modest suggestions concerning their druggists' sundries business. A pretty piece of printing on the calendar is a diminutive water bottle in gold that adorns the first page.

=Robert B. Baird, dealer in crude rubber and rubber manufacturers' supplies, has removed his New York office from No. 253 Broadway to No. 38 Murray street, to date from March 1.

=The New York office of the Boston Rubber Shoe Co., formerly at No. 142 Duane street, has been consolidated with the general offices of the United States Rubber Co., Nos. 9-15 Murray street.

PERSONAL MENTION.

MR. W. R. BRIXEY, the insulated wire and cable manufacturer, was among those who were severely injured by the recent dynamite explosion in the New York subway. He was a resident at the time of the Murray Hill Hotel, in front of which the explosion occurred. At the latest accounts a hope was entertained of Mr. Brixey's recovery.

=Mr. Fred. C. Hood, treasurer of the Hood Rubber Co. (Boston), has been quite ill with diphtheria, but is now wholly recovered and back at his desk.

=Mr. Raymond B. Price, factory manager of the Calumet Tire Rubber Co. (Chicago), is taking a mid-winter vacation in Mexico.

=Mr. H. C. Burton, of Parker, Stearns & Sutton (New York), after some weeks of rest, during which he made a visit to Eu-

rope, is back at his office very much improved in health, a fact that greatly rejoices his friends in the rubber trade.

=Mr. Edward H. Garcin, vice president of the Trenton Rubber Manufacturing Co., was married on February 4 to Miss Elizabeth Bratton, at Edgewater Park, New Jersey. Mr. and Mrs. Garcin will make their home at "Shorelands," their beautiful country place in Edgewater Park, on their return from the bridal trip.

=On leaving Akron, Mr. H. C. Corson, lately vice president of The B. F. Goodrich Co., took with him as an evidence of the regard of those associated with him in the offices of the company, a very handsome loving cup. It was presented on the day of his formal retirement from the company.

=Colonel George T. Perkins, president of the B. F. Goodrich Co. (Akron, Ohio), has given to the Union Charity Association of Akron \$7500, toward the erection of a home in which children of the poor will be taught sewing, cooking and the simpler branches of household work, such as boys and girls can do. There will be reading rooms, gymnasium, swimming pool, etc., for the hours of recreation. The building will be named Grace Charities, in memory of Colonel Perkins' daughter. The Union Charity Association has been carrying on this work for two years, but has had no home for it.

=Mr. Charles R. Flint has resigned the presidency of the American Ordnance Co., the controlling interest in which has been purchased by what is known as the Hoadley-Cramp syndicate. Joseph H. Hoadley has been elected president, and plans are said to be forming for a consolidation of interests in ordnance manufacture, with \$15,000,000 capital.

=Mr. Edward H. Gorse, treasurer of the Monarch Rubber Co. (St. Louis), was a recent visitor at the offices of THE INDIA RUBBER WORLD.

=Mrs. Helen Allen Wright, widow of the late Rufus Wright, of Morgan & Wright (Chicago), whose death occurred a year and a half ago, died in Chicago on February 16. She had been an invalid for many years. Funeral services were held at her early home in Akron, Ohio, February 19, and the remains were interred in Glendale cemetery there beside those of her husband. A large party of Chicago friends attended the funeral services in Akron. Mrs. Wright was a daughter of the late Jacob Allen, a wealthy pioneer manufacturer of Akron.

RUBBER GOODS MANUFACTURING CO.

THE annual meeting this year, instead of being held in February as formerly, will be held on the second Thursday in April.==The following is a record of trading in the company's shares on the New York Stock Exchange:

DATES.	COMMON.			PREFERRRD.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Jan. 26	.....	....	....	100	68½	68½
Week ending Feb. 1	2,210	18¼	17¾	972	69¾	69
Week ending Feb. 8	150	18	18	120	70	70
Week ending Feb. 15	500	18½	18	235	67	66
Week ending Feb. 21	1,880	18¾	17½	....	....	....

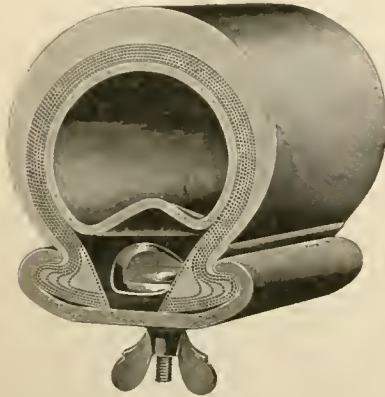
THE GLUCOSE STARCH TRUST.

THE new company which is to take over the controlling interest in the Glucose Sugar Refining Co., the National Starch Co., the Charles Pope Glucose Manufacturing Co. and the Illinois Sugar Refining Co., as well as a little less than a majority of the stock of the New York Glucose Co., will be known as the Corn Products Co. Arrangements have been made to have the new company incorporated at Trenton, with an authorized capitalization of \$50,000,000 common stock and \$30,000,000 7 per cent. cumulative preferred stock. The underwriting is in

THE RUBBER VEHICLE TIRE INTEREST.

THE 1902 GOODRICH MODEL.

THIS illustration represents a sectional view of the detachable motor tire as now manufactured by The B. F. Goodrich Co. (Akron, Ohio.) It is less oval in form than the tires of the same class marketed by this firm prior to the present season, affording a broader tread and lessening the strain upon the tire walls. This model may be described as that of the "Continental" type of motor tires, manufactured in Europe, whereas the oval section tire more nearly represented the "Michelin" construction. While the Goodrich company are prepared to accept orders for motor tires of various forms, the detachable tire, as shown



in the cut, may be considered their standard model for automobile work.

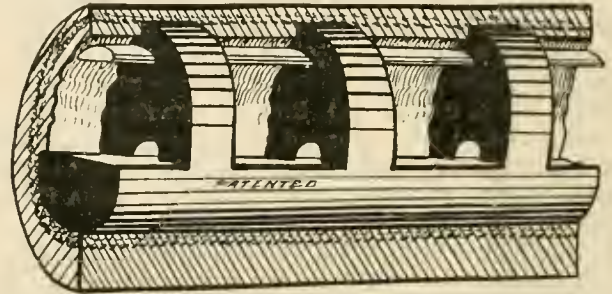
KEMPSHALL CUSHION PNEUMATIC TIRE.

THIS tire is built for the purpose of obviating liability to puncture, while retaining a degree of elasticity which it is not possible to secure through other forms of construction equally heavy. But should a puncture occur, the tire wall is heavy enough to support the vehicle without injury to the tire itself. In reducing the size of the air chamber, the elastic qualities of the pneumatic tire have been preserved through the introduction of a heavy wall of sponge rubber between the two layers of fabric. The various plies of fabric in the tire are protected by a skin of rubber which prevents their chafing together, while adding to the elasticity. The outer cover is made of the well known motor facing compound, especially developed by the International Automobile and Vehicle Tire Co. These tires are described as being well adapted to light as to heavy vehicles, and have been ridden over 7000 miles without any bad effects. Manufactured, under a license from The Rubber Tire Co., of America, by the International Automobile and Vehicle Tire Co.

THE BROOKE CARRIAGE TIRE.

THE distinctive feature of this tire is an inner core of rubber, braced by an outer covering of rubber and canvas. The par-

tial, though imperfect, adhesion of the already cured core to the outer casing leaves a weakness at the line of contact and so produces a bracing effect which would be absent if the core

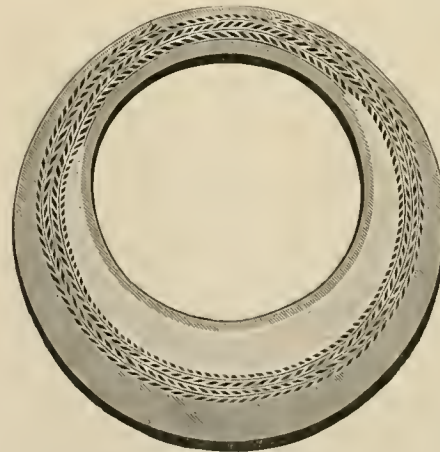


and the attached rubber supports were molded in one integral whole. Although this tire can be manufactured, if required, in endless tread form, the owners prefer to introduce it in straight lengths, sold by the foot. These lengths are applied to the rim of the wheel by means of a special crescent shaped wire, brazed at the ends. The crescent side is intended to fit snug against the canvas outer casing of the tire, holding it firmly to the crescent rim of the wheel. The flat portion of the wire, joining the curved portion, forms acute side angles, which tend to grip the tire when receiving side blows, instead of the wire rolling with the tire as would be the case with a circular wire. This tire was designed first for cycling use, but has since been made in larger sizes for automobiles and other vehicles. [Brooke Airless Rubber Tire Co.]

CONNECTICUT FIBRE TIRE.

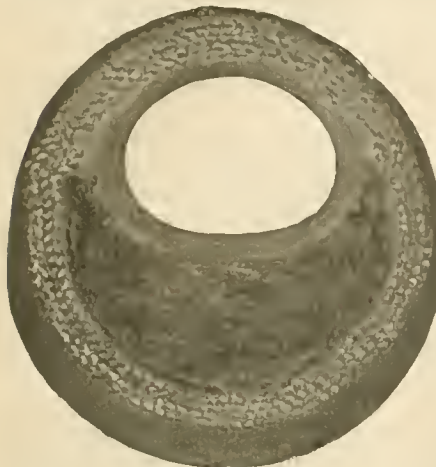
THIS tire is designed, in the language of the inventor, to possess all the advantages of a solid and of a pneumatic, but with none of the disadvantages of either. It is an armored tire, with double compartments, one for the air and one for the armor. The latter lies between the air tube and the tread of the tire, making it practically non-puncturable, while, it is claimed, not interfering with the resiliency of the tire. The material enclosed in this compartment is

cotton which has been subjected to a patented chemical process. This armor is not stiff or hard, and an additional advantage claimed for it is that it takes up an important amount of strain or jar, thus protecting the air tube against the injury to which this feature of most pneumatic tires is subject. The new tire has been applied to bicycles, wagons, and automobiles, including one vehicle weighing 3000 pounds, with satisfactory results. The specially prepared fabric used in the tires is also offered for use in filling horse collars, bicycle saddles, and rubber heels, as well as a substitute for felt. [Connecticut Fiber and Tire Co., Bridgeport, Conn.]



PUNCTNOT TIRE.

THIS tire is distinguished, in the first place, by its non puncturable feature, provided by a patent secret process filler,



as indicated by the illustration. It is likewise non collapsible, since this same filler provides a resilient cushion upon which one can ride with comfort even should the tire become deflated. The "Punctnot" has an unconfined air tube, with room for expansion against the filler. This is offered as an improvement over other types of pneumatic tire construction,

in which the air tube is surrounded wholly by a rigid fabric, which prevents expansion and is a cause of leaks forming and explosions occurring. It is described as being lighter in weight than other tires of the same size. It is made in all sizes required for bicycle and automobile use. It is understood that this is not a low priced tire, the advantages claimed for it being offered as an offset to the higher charge made for it. The selling agents are the new firm, of Coe, Smith & Co., No. 158 Summer street, Boston, the head of which firm, Charles A. Coe, long was an important member of the rubber shoe jobbing trade.

PRICES OF BICYCLE TIRES.

THE California State Cycle Board of Trade, organized recently at San Francisco, and embracing the principal dealers throughout the state, entered into an agreement to charge the following net prices for the various brands of bicycle tires when applied to wheels:

Palmer export.....	\$5.50	Defender special.....	\$3.75
Goodrich anti-cactus 999....	5.00	Fisk 55.....	3.75
G. & J.....	5.00	Goodrich 19.....	3.75
Palmer.....	5.00	Hartford 70.....	3.75
Cataplero.....	4.50	Goodrich M. & W.....	3.50
Fisk puncture proof.....	4.50	Morgan & Wright.....	3.50
Fisk tandem.....	4.50	Guaranteed, 60 days.....	3.00
Goodrich 999.....	4.50	Unguaranteed.....	2.75
Goodrich anti-cactus.....	4.50	Casings—Dunlop.....	3.75
Goodrich M. & W. special..	4.50	G. & J.....	3.75
Goodrich 19 tandem.....	4.50	Goodrich M. & W.....	2.75
Hartford 80.....	4.50	Morgan & Wright.....	2.75
Hartford special.....	4.50	Inner tubes—Goodrich M. & W.	2.00
Hartford thorn.....	4.50	Dunlop.....	1.75
Milwaukee puncture proof..	4.50	G. & J.....	1.75
Fisk 88.....	4.00	Hartford.....	1.50
Hartford 77.....	4.00	M. & W.....	1.50

Tires not put on by seller, 25 cents less.

LA ZACUALPA RUBBER.

THE work of La Zacualpa Rubber Plantation Co. (San Francisco) has been referred to several times in THE INDIA RUBBER WORLD, and they now afford a further opportunity for a mention of the progress made on their plantation in the state of Oaxaca, Mexico. As before recorded, La Zacualpa plantation, though formed only about three years ago, embraces several thousand rubber trees (*Castilloa elastica*) planted by a former owner of the land, in 1889 and 1890, which are now yielding an average of 2½ pounds of rubber a year. The company have favored THE INDIA RUBBER WORLD with a

neat package comprising three paper boxes, each containing a sample of this cultivated rubber.

No. 1 shows the crude rubber, after coagulation, in the form in which it is shipped from the plantation.

No. 2 is a sample of the rubber, after having been washed, sheeted, and dried, in a factory.

No. 3 is a strip of rubber from the same lot, vulcanized, only enough sulphur having been added to effect a proper cure—in fact, pure vulcanized rubber.

The rubber thus shown is of good quality, and the educational value of distributing such samples—several thousand in number, we understand—must be very great, and is to be commended as aiding to extend the interest in rubber planting. La Zacualpa company also send advance sheets of a new pamphlet about to be issued, in regard to their work, and the object of which is to inform people not already familiar with the subject in regard to the nature of India-rubber and the methods by which it is produced. The booklet appears to be well designed for this purpose, being both more accurate and much clearer than many other rubber planting publications that have come to hand.

Another new publication by the company is a report on La Zacualpa plantation by one of its shareholders—handsomely illustrated—of which fuller mention will be made at a later date. Some of the company's business plans are outlined in their advertisement, on another page of this paper. The company are understood to have sold a considerable number of shares in the Eastern states, including \$10,000 worth in the town of Fitchburg, Massachusetts.

NEW TRADE PUBLICATIONS.

THE W. D. ALLEN MANUFACTURING Co. (Chicago) have issued their Catalogue No. 16, devoted to Leather Belting, Brass Goods, Piston Packing, and Specialties in Mill Supplies—all of their own manufacture—and suitable for keeping in stock together with the leading lines of mechanical goods, of which the house named are also large handlers. [63"X20¼". 63 pages.] —A desirable feature of W. D. Allen's catalogues is that the different issues are uniform in size, which adds to the convenience of keeping them together for reference.

ALLGEMEINE ELEKTRICITÄTS-GESELLSCHAFT—the German General Electric Co.—(Berlin) have issued under one cover a series of twenty-six of their trade announcements, appearing originally during the past four years, which, collectively, form a very complete catalogue. No. 1 is devoted to copper wire; Nos. 3, 10, and 23 to hard rubber insulation tubes; No. 9 to "Stabilit"—a patented hard rubber substitute; No. 14 to telephone cables; No. 15 to trolley wire; No. 16 to vulcanasbestos; Nos. 18 to hard rubber accumulator cases, etc. Some of the numbers are price lists. A liberal use is made of illustrations, including views of the factory, and the printing is of a high order; the size of the pages is 9¼X11¼ inches.—The capital of this company now amounts to 60,000,000 marks [\$15,000,000], on which a dividend of 12 per cent. was paid last year. For four years previously 15 per cent. had been paid on a smaller capitalization. The reserve fund has reached the legal maximum of 30,000,000 marks, or one-half the share capital, so that the allotment of a portion of the yearly earnings for reserve will not be longer necessary, and a larger share may be available for dividends.

ALSO RECEIVED.

Foster Engineering Co., Newark, New Jersey.—The Foster Pressure Regulator (Reducing Valve) and other High Grade Specialties for Steam, Water, Gas, or Air. 96 pages.

[CONTINUED FROM PAGE 195.]

charge of Cuyler, Morgan & Co. (New York).—The new enterprise interests the rubber trade only so far as corn-oil substitute goes. As the cheapest of oil substitutes, of course this has had a fairly large sale, but the large percentage of sulphur in most of it and the fact that it is at best only a filler, leads many to believe that a reaction will shortly come in favor of other substitutes.

NEW YORK RUBBER CO.

THE employes of this company, on a recent payday, were pleasantly surprised when each received two envelopes instead of one, the extra envelope being inscribed: "Enclosed you will find one week's extra pay, with the best wishes of the New York Rubber Co." This was regarded by the employes as indicating that the company had experienced a prosperous year.

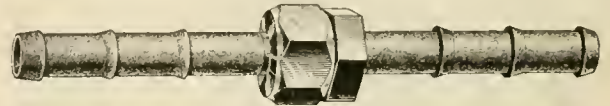
SHOE JOBBERS MEET IN NEW YORK.

THE annual meeting and dinner of the Middle States Shoe Jobbers' Association occurred in New York, at the Hotel Marlborough, on February 20. The attendance was good, including the heads of many houses in New York, Philadelphia, and other important towns that are large handlers of rubber footwear. A feature of the proceedings at the banquet was an

address on the rubber trade by Colonel Samuel P. Colt, president of the United States Rubber Co. He went into the history of rubber and talked entertainingly, and his address was listened with great interest by his audience.

EXTRA HEAVY STEAM HOSE COUPLING.

THE illustration herewith represents a new style extra heavy steam hose coupling, for manufacturing which H. B. Sherman Manufacturing Co. (Battle Creek, Michigan) have got out patterns and tools for sizes of 3/4 inch, 1 inch, 1 1/4 inch, and 1 1/2 inch. This coupling is more than double the weight of the



regular steam coupling, and is intended for use in places where hose and fittings receive severe usage. Concerns interested in learning more in regard to coupling of the character indicated above are invited to write to the firm named, for descriptive circular.

REVIEW OF THE CRUDE RUBBER MARKET.

THE work of liquidating the stocks of rubber held by a New York house which recently passed into the hands of receivers, has been in gradual progress during the past month, though, it is understood, the major part yet remains to be disposed of. Evidently the financial houses interested through having made advances on these stocks have preferred a policy of caution to one of haste in realizing on their holdings—else the market would have become demoralized. While business has been done at lower figures than have been known for several years past—fine Upriver Pará a year old having changed hands at a price as low as 73 cents—the fact has not stimulated manufacturers, as a rule, to buy beyond present requirements. It is not their practice to buy freely on a falling market, and there is to be considered not only the unusually liberal supplies in this market, but the possibility of a record breaking production on the Amazon. In another column space is given to a repeated prediction from Liverpool of a shortage in the winding up months of the Pará season, but it seems fair to state that these views are not generally shared in the trade. There has been some demand on the New York market for shipment to Europe. Receipts at Pará for the crop season, up to February 26, of Rubber and Caucho, amounted to 20,335 tons, against 17,030 tons last year to March 1.

New York quotations on February 27 were:

PARÁ.		AFRICAN.	
Islands, fine, new....69	@70	Tongues.....43	@44
Islands, fine, old.....72	@73	Sierra Leone, 1st quality	60 @61
Upriver, fine, new....71	@72	Benguella.	44 @45
Upriver, fine, old....74	@75	Cameroon ball.....43	@44
Islands, coarse, new...45	@46	Flake and lumps.....28	@29
Islands, coarse, old...@	@	Accra flake.....16	@17
Upriver, coarse, new..59	@60	Accra buttons.....43	@44
Upriver, coarse, old...@	@	Accra strips.....49	@50
Caucho(Peruvian)sheet	46 @47	Lagos buttons.....43	@44
Caucho (Peruvian)ball	53 @54	Lagos strips.....48	@49
CENTRALS.		Madagascar, pinky...	@
Esmeralda, sausage...50	@51	Madagascar, black...	@
Guayaquil, strip.....46	@47	EAST INDIAN.	
Nicaragua, scrap...50	@51	Assam.....54	@55
Mangabeira, sheet...39	@40	Borneo.....33	@42
Late Pará cables quote:			

Islands, fine.	4\$400	Upriver, fine.....	5\$000
Islands, coarse.....	2\$300	Upriver, coarse.....	3\$500
Exchange, 12d.			
Manáos advices, same date:			
Upriver, fine.....	4\$400	Upriver, coarse.	3\$100
Exchange 12d.			
NEW YORK RUBBER PRICES FOR JANUARY (NEW RUBBER.)			
	1902.	1901.	1900.
Upriver, fine.....	77 @86	87 @92	108 @110
Upriver, coarse.....	62 @65	65 @69	84 @ 87
Islands, fine.....	75 @81	84 @88	105 @108
Islands, coarse.....	47 @52	48 @52	64 @ 66
Cametá, coarse.....	50 @52 1/2	53 1/2 @55	65 @ 69

Statistics of Para Rubber (Excluding Caucho).

NOTE.—The figures herewith, indicating New York stocks of January 1, will be found to vary largely from the figures for the same date given in the last INDIA RUBBER WORLD. The explanation is that certain holdings were that time concealed from the trade, whereas by February 1 these holdings were better known.

NEW YORK.						
	Fine and Medium.	Coarse.	Total 1902.	Total 1901.	Total 1900.	
Stocks, January 1....	tons 1105	34 =	1139	658	410	
Arrivals, January.....	855	475 =	1330	1094	1707	
Aggregating.....	1960	509 =	2469	1752	2117	
Deliveries, January.....	669	461 =	1130	1100	1471	
Stocks, January 31....	1291	48 =	1339	652	656	
PARÁ.						
	1902.	1901.	1900.	1902.	1901.	1900.
Stocks, January 1....	150	660	580	1299	780	440
Arrivals, January....	3825	2445	3620	1156	1195	610
Aggregating.....	3975	3105	4200	2455	1975	1050
Deliveries, January...	3465	2390	2760	1225	900	600
Stocks, Jan. 31..	510	715	1440	1230	1075	450
ENGLAND.						
World's supply, January 31.....				5329	3676	4219
Pará receipts, July 1 to January 31.....				16,079	13,735	11,085
Pará receipts of Caucho, same dates				1381		
Afloat from Pará to United States, Jan. 31.				*1017	374	474
Afloat from Pará to Europe, January 31.....				†1565	860	1189

[* Includes 87 tons Caucho. † Includes 245 tons Caucho.]

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows:

"During February there has been a fair demand for paper, though principally from out of town banks, and the average ruling rates for the month have been 4½@5 per cent. for the best rubber names, and 5½@6 per cent. for the smaller concerns not so well known."

Less Rubber At New Orleans.

INDIA-RUBBER imports at New Orleans during 1901 amounted to 469,865 pounds, worth \$264,162, against 572,873 pounds in 1900, worth \$357,070.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During February two rubber auctions were held at Antwerp, the first on the 7th instant, when 58 tons were exposed and 45 tons sold. Good qualities, especially black Kassafs, were firm, but secondary qualities were neglected and sold 1 to 2 per cent. below estimations. The other sale was held on the 14th instant, when about 256 tons, all Congo sorts, were exposed, of which 198 tons were sold. Kassafs were again firm, but other sorts especially inferior qualities were weak, and about 5 per cent. lower. The principal lots sold as follows (prices in francs per kilogram):

	Valuation.	Price Obtained.
8 tons Lopori I.....	7.80	7.20
42 " Upper Congo.....	7.	6.62½@6.80
17 " Lake Leopold.....	4.60	4.80
30 " Uelé strips.....	6.25	5.87½
10 " Aruwimi.....	6.25	5.75
14 " Congo-Katanga.....	5.25	5.37½

Importations since January 1—613 tons Congo sorts; 22 tons other sorts. Sales since January 1, about 660 tons. Actual stocks, about 400 tons.

C. SCHMID & CO.

Antwerp, Belgium, February 14, 1902.

ANTWERP RUBBER STATISTICS FOR JANUARY.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Jan. 1, Kilos	414,709	614,039	291,991	263,340	94,463
Arrivals January....	636,243	543,626	475,880	285,833	87,337
Congo sorts.....	613,876	443,073	430,696	255,412	80,346
Other sorts.....	22,367	100,553	44,884	30,421	6,991
Aggregating....	1,050,952	1,157,665	767,871	549,173	181,800
Sales January.....	407,253	509,034	225,773	250,662	90,096
Stocks, Jan. 31.	643,699	648,631	542,098	298,511	91,704

ARRIVALS AT ANTWERP.

JANUARY 24.—By the *Albertville*, from the Congo:

Bunge & Co.....(Société Anversoise) kilos	5,300	
Bunge & Co.....(Domaine privé Etat du Congo)	211,000	
Bunge & Co.....(Plantations Lacourt)	4,080	
Bunge & Co.....(Comité Spécial Katanga)	4,822	
Société A B I R.....	11,600	
M. S. Cols.....(Centrale Africaine)	10,000	
M. S. Cols.....(Société Ikelemba)	1,000	
M. S. Cols.....(Cie. Plantation de Société Lubefu)	13,000	
Société Equatoriale Congolaise.....	2,000	
Comptoir Commercial Congolais.....	3,000	
Ch. Dethier.....(Société Belgika)	20,000	
Ch. Dethier.....(Société la Loanje)	12,000	
Société Coloniale Anversoise.....(Société La Djuma)	6,000	
Société Coloniale Anversoise (Belge du Haut Congo)	13,040	
Trafic Congolais.....	2,900	
L. & W. Van de Velde (Comptoirs Congolais Velde).	3,300	
Credit Commercial Congolais.....(La Lulonga)	400	323,442
Arrivals, January 3.....		355,000
Total arrivals, January.....		658,442

FEBRUARY 17.—By the *Philippeville*, from the Congo:

Bunge & Co.....(Société Anversoise) kilos	40,200
Bunge & Co.....(Domaine privé Etat du Congo)	292,500
Bunge & Co.....(Plantations Lacourt)	5,000
Bunge & Co.....(Comité Spécial Katanga)	5,060
Bunge & Co.....(Société Isangi)	12,000
Société A B I R.....	11,000
Ch. Lethier.....(Société la Loanje)	2,000
Ch. Lethier.....(M'poko Gratry)	250
Ch. Lethier.....(Société Belgika)	4,000
Société Coloniale Anversoise.....(Société La Djuma)	500
Société Coloniale Anversoise.....	16,737
Société Coloniale Anversoise.....	3,272
Société Coloniale Anversoise... (Société la Lomami)	22,937
Société Coloniale Anversoise.....	5,000
Comptoir des Produits Coloniaux....(Kadei Sangha)	6,000
L. & W. Van de Velde.(Comptoirs Congolais Velde)	6,000
M. S. Cols.....(Produits Vegetaux du Kassai)	8,000
M. S. Cols.....(Cie. Plantation Société Lubefu)	13,000
Arrivals for January.....	453,456
	658,442

Congo arrivals since January 1. 1,011,898

Para.

KANTHACK & CO. report [February 6]: "Although movements were somewhat irregular, an improvement in prices was slowly but gradually taking place until within the last few days, when fresh unfavorable news from the consuming markets caused a sudden relapse. The demand having, however, remained normal, the actual decline has not been serious so far, and has done little harm to the sellers, as the receding exchange has been favorable towards maintaining currency prices.

"It is understood here that the Manãos government has annulled the decree by which the Upriver rubber was retained for that market, in which case a good proportion will find its way to Pará, as in former years."

The office and warehouse of Frank da Costa & Co., at Pará, were destroyed by fire on January 14, involving the loss of 28 tons of rubber. The firm's loss, exclusive of insurance, is reported at £12,000. Two firemen were killed and several injured.

The state of Pará has negotiated in London a loan of £1,450,000, represented by an issue of 5 per cent. gold bonds, to be redeemed within 50 years, and secured by a special lien upon export duties and upon the other revenues of the state. The price of the issue was 88 per cent. It is understood that the public subscribed for 9 per cent. of the issue, leaving 91 per cent. in the hands of the underwriting bankers.

Liverpool.

MARIUS & LEVY report [February 14]:

Receipts have been so far 3810 tons in excess of the last crop, but this excess will be wiped out during February and March, as from information which reached us three days ago, the revised estimate for these two months combined is 4300 to 4500 tons against 8200 tons last year, showing a decrease of 3700 tons, which practically annihilates the excess so often prophesied by some operators who gave out that fine Pará would go to 3 shillings per pound, owing to the expected large receipts. In some districts, like the Javary river, Jurúá, and Purús, the crop is practically over, and Upriver keeps 2d. and 3d. per pound higher in Manãos and Pará than the parity here.

The selling of the stock of the American concern which is in trouble, has had an effect on the market which, however, will be of a very short duration, as we hear that though two or three bankers are willing to liquidate their warrants, the others insist on waiting for higher prices.

One thing must be borne in mind, which is, that Mediums have not suffered in proportion to Fine, which shows that it is only owing to manipulation that the great fall in prices of the pure grades has occurred. It is reported that the arrivals of African and Congo sorts will be much smaller in the near future. Thus everything points to an almost immediate advance in all qualities. We maintain more than ever that

the actual crop will be very much short of the last one, and again emphatically assert that our prognostications, with regard to a much higher level of prices, will be realized very shortly.

London.

EDWARD TILL & Co., under date of February 1, report stocks:

	1902.	1901.	1900.
LONDON { Pará sorts..... tons —			
{ Borneo.....	134	193	223
{ Assam and Rangoon.....	54	20	17
{ Other sorts.....	414	730	403
Total.....	602	943	643
LIVERPOOL { Pará.....	1241	1082	449
{ Other sorts.....	831	1104	756
Total, United Kingdom.....	2674	3129	1848
Total, January 1.....	2794	2901	1855
Total, December 1.....	2525	3061	1789
Total, November 1.....	2602	3040	1860
Total, October 1.....	2802	2846	1831
Total, September 1.....	2736	3170	1988
Total, August 1.....	2944	3645	1878
Total, July 1.....	3128	3653	2247

PRICES PAID DURING JANUARY.

	1902.	1901.	1900.
Pará fine, hard.....	3/2½ @ 3/6½	3/7 @ 3/10½	4/6¾ @ 4/9¼
Do soft.....		3/7 @ 3/9¼	4/5¾ @ 4/9
Negroheads, Islands.....	2/-	2/1½ @ 2/2	2/8¼ @ 2/9¼
Do scrappy.....	2/7¼ @ 2/8¾	2/9 @ 2/9¾	3/7¼ @ 3/7¾
Bolivian.....	No sales.	No sales.	4/7½ @ 4/9½

Hamburg.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Transactions in rubber in this month at the first of the month were very quiet, but later have become more animated, leading to a firmer tendency in prices, followed again by weakness. There is a desire here to clean out stocks, in view of which, the present would seem to be a good time to buy rubber here. Sales have been made this week at the following prices, in marks per kilogram:

Bolivian, fine and hard cure	7.15 @ 7.20
Manáos, scrappy	5.75 @ 5.85
Mozambique ball, finest red.....	6.80 @ 6.85
Mozambique ball, fine red.....	6.50 @ 6.60
Mozambique ball, good red.....	6.15 @ 6.20
Mozambique ball, mixed.....	5.80 @ 5.85
Mozambique spindles, fine.....	6.20 @ 6.25
Massai niggers, fine red.....	5.75 @ 5.90
Massai niggers, mixed.....	5.50 @ 5.60
Congo thimbles, fine.....	4.90 @ 4.95
Congo thimbles, medium.....	4.50 @ 4.60
Congo thimbles, inferior red.....	2.90
Loanda niggers, regular quality ..	4.15 @ 4.20
Adeli ball, red.....	6.20 @ 6.15
Batanga ball.....	4.10 @ 4.15
Ecuador scraps, fine.....	5.40
Ecuador scraps, mixed.....	5.20
Guatemala slabs, fine.....	4.30 @ 4.40

Hamburg, February 11, 1902.

Rotterdam.

TO THE EDITOR OF THE INDIA RUBBER WORLD: While fine Pará has been subjected to considerable fluctuations of late, and the tendency generally has been weak, Congo and other medium sorts, in this market, have continued to hold their

own, and even show an improvement over former prices. The last sales here attracted much attention, and the parcels offered went off under keen competition, though there was no buying for American account. The following lots changed hands:

	Kilos.	Kilos.	
Upper Congo, red, prime..	1,200	Upper Congo, cut red ball..	4,400
Do black.....	1,100	Congo thimbles, red.....	15,000
Do small red ball.....	4,500	Do ball.....	2,225
Do small ball.....	14,000	Do slightly sticky.....	5,300
Do red Loanda.....		Do mixed.....	1,500
Do kind.....	10,200	Mozambique sausages, stick-	
Do marked.....	1,375	less.....	5,850
Do red, barky..	2,300	Do Do sandy	1,650
Do red Benguella.....		East Indian.....	1,790
Do kind.....	3,850	Borneo, No. 2.....	840
Do reddish un-		Total.....	82,430
ripe.....	5,350		

Gutta-percha.—Some 10,000 kilograms fine Macassar quality have been offered, but remain unsold on account of the excessive price asked by importers. No Balata has come to this market in the course of the last two months.

A. KNOTTENBELT & CO.

Rotterdam, February 5, 1902.

Rotterdam Rubber Statistics, 1901.

[Supplied by WEISE & Co.]

INDIA-RUBBER ARRIVALS (KILOS.)

Thimbles, red.....	140,200	Soudan.....	37,000
Congo ball.....	18,300	All other.....	10,300
Kassai, red..	276,300		
Kassia, black.....	22,550	Total, 1901 ..	853,250
Upper Congo.....	301,000	Total, 1900.....	877,450
Sierra Leone.....	11,000	Total, 1899 ..	804,750
Mozambique.....	18,700	Total, 1898 ..	656,400
Java and Sumatra.....	17,900	Total, 1897.....	705,650

	1902.	1901.	1899.	1898.
Stocks, January 1.....	67,300	80,600	38,900	36,100

BALATA ARRIVALS (KILOS.)

	1901.	1900.	1899.	1898.
Surinam sheet....	211,950	161,600	95,250	76,800
Venezuela block	31,450	23,500	52,200	158,800
Total.....	243,400	185,100	147,450	238,600
Stocks, end year.....			5,000	

GUTTA PERCHA (TONS.)

	1901.	1900.	1899.	1898.
Stocks beginning of year.....	185	307	180	130
Arrivals during year.....	314	280	495	265
Aggregating.....	499	587	675	395
Sales during year ..	236	402	368	215
Stocks end of year ...	263	185	307	180

German Official Rubber Statistics.

QUANTITIES.

	1899.	1900.	1901.
Imports..... pounds	30,616,800	29,537,080	28,649,280
Exports.....	11,952,380	10,493,340	11,027,500

Net Imports..... 18,663,700 19,033,740 17,621,780

VALUES.

Imports.....	\$17,885,462	\$17,568,684	\$17,045,274
Exports.....	5,430,684	5,108,432	5,368,328

Net Import value.... \$12,454,778 \$12,460,252 \$11,676,946

THE above figures include also Gutta-percha and Balata, no

PROMOTER WANTED.

A LOAN of \$5000 at 6 per cent, will give competent manager control of a Rubber factory, free and clear, and valued at \$50,000, secured by mortgage and other inducements, at depot near Manhattan; or 5500 acres of timber land in mineral district on West Virginia Central railroad, also free and clear; or valuable property in New York, suitable for auction and storage business or hotel and restaurant; or valuable farm on Long Island railroad, between Brooklyn and Oyster Bay, for a new city. Address RETIRING MANUFACTURING MERCHANT, care of THE INDIA RUBBER WORLD. [169]

SITUATION WANTED.

WANTED.—To form a permanent business connection with a mechanical rubber manufacturing company as Superintendent, Manager, Secretary or Chemist. Am an expert Chemist; experienced compounder; thoroughly familiar with factory methods and management; also with modern labor-saving office methods and accounting; now employed; correspondence solicited. Address S. W., care of THE INDIA RUBBER WORLD. [131]

distinction being made in the imperial customs classification. But what still further detracts from the value of these statistics in estimating the world's consumption of rubber is their inclusion of old rubber, or rubber scrap. But Germany is also a large exporter of rubber scrap, probably exporting more of this material than is imported, so that the above statements of "net imports" probably give very nearly the amount of crude India-rubber and Gutta-percha retained in the country for consumption. In the German imports of rubber for three years past are included the following amounts from countries which cannot be regarded as exporters of crude rubber, and these amounts must, therefore, be regarded as old rubber:

FROM—	1899.	1900.	1901.
Denmark.....kilos.	29,200	62,300	56,900
Finland.....	25,000	116,100	137,500
Norway.....	59,100	61,600	90,100
Austria-Hungary.....	54,000	86,300	54,100
Russia.....	3,303,300	1,846,100	1,966,000
Sweden.....	199,900	383,300	392,700
Switzerland.....	25,900	64,700	58,800
Turkey.....	79,100	109,500	84,700
Romania.....	.....	21,400	25,200
Total.....kilos.	3,778,500	2,751,300	2,896,000

COMPARATIVE STATEMENT (IN KILOS)

Total imports.....	13,916,400	13,480,200	13,022,400
Old rubber.....	3,778,500	2,751,300	2,866,000
Leaving for crude rubber.....	10,137,900	10,728,900	10,156,400

Bordeaux.

THE importance of Bordeaux as a rubber market has been growing for several years past. During the year just ended the importations at that port from the Soudan have been 270,000 kilograms of rubber, at a value of 15,000,000 francs, two-thirds of which were Soudan twists, and the remainder Soudan niggers. The twists are in great demand on account of their purity and quality; the average price for these, during 1901 was 6 @ 6.90 francs per kilo. Niggers are not in great demand, being frequently sandy, and prices ruled for these at 4.50 @ 5.50 francs per kilo. The import of Casamance rubber amounted to 65,000 kilograms, at an estimated value of 325,000 francs. This quality is in great demand for certain purposes. The better sorts of Cassamance commanded a price of from 5.25 @ 6.80 francs, per kilogram, and the inferior sorts 3 @ 4.70 francs. The import of Grand Bassam amounted to about 5000 kilograms. This rubber belongs to the soft rubber class, but seems to be in extensive demand by some buyers. Cakes and lumps sold at 4.70 @ 5.40 francs per kilogram, and niggers at 5.70 @ 5.80 francs. Bordeaux received 5000 kilograms of Ton-

quin rubber; this importation is a recent venture and proved very unsatisfactory, too high a price having been paid for it at the place of production. The red rubber of Tonquin seems to find little favor with the manufacturers, but the black rubber could be readily sold at 6.50 @ 6.75 francs per kilogram. New Caledonia has also recently become a shipper of rubber to Bordeaux, the import being, during 1901, 3000 kilograms; the product is fine and clean, but hard and resinous, and was sold during the past year at 8 @ 8.25 francs per kilo. Imports from Java amounted to 5000 kilograms. This rubber, like that from Tonquin, soon becomes soft and sticky; its price was 7 @ 7.50 francs.—*Gummi-Zeitung*. [These various details amount to a total of 323,000 kilograms for 1901. The rubber imports at Bordeaux for the previous year amounted to 121,213 kilograms.]

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

January 29.—By the steamer *Camelense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
New York Commercial Co.	310,000	86,100	69,400	500=	466,000
A. T. Morse & Co.	138,200	34,700	97,200	15,100=	285,200
Reimers & Co.	55,300	21,100	86,600	58,000=	221,000
Boston Rubber Shoe Co.	32,000	5,400	20,500	.....=	57,900
United States Rubber Co.	9,800	3,000	14,200	.....=	27,000
Robinson & Tallman.	8,100	.....	1,700	.....=	9,800
L. Hagenauers & Co.	4,200	.....	2,400	.....=	6,600
Total.....	557,600	150,300	292,000	73,600=	1,073,500

February 11.—By the steamer *Dominic* from Manáos and Pará:

New York Commercial Co.	199,800	60,800	97,200	66,800=	424,600
A. T. Morse & Co.	205,100	65,300	62,700	.....=	333,100
Reimers & Co.	53,800	11,800	63,500	30,100=	159,200
United States Rubber Co.	.....	.....	44,300	.....=	44,300
Boston Rubber Shoe Co.	.....	.....	44,200	.....=	44,200
William Wright & Co.	.....	.....	12,000	.....=	12,000
Total.....	458,700	137,900	323,900	96,900=	1,017,400

February 21.—By the steamer *Hildebrand*, from Manáos and Pará:

New York Commercial Co.	307,700	79,500	161,200	38,300=	586,700
Reimers & Co.	146,200	45,000	68,700	23,800=	283,700
A. T. Morse & Co.	72,000	9,000	132,200	4,300=	217,500
Boston Rubber Shoe Co.	.....	.....	46,700	37,900=	84,600
United States Rubber Co.	.....	.....	46,700	.....=	46,700
William Wright & Co.	.....	.....	22,700	.....=	22,700
Robinson & Tallman	10,000	700	2,000	.....=	12,700
Hagemeyer & Brunn	7,100	.....	3,300	.....=	10,400
Total.....	543,000	134,200	483,500	104,300=	1,265,000

[NOTE.—The steamer *Horatio*, from Pará, having on board 340 tons of Rubber and 70 tons of Caucho, is due at New York March 1.]

[NOTE.—No Pará rubber via Europe reached New York during the past month.]

OTHER ARRIVALS AT NEW YORK FROM THE ORINOCO.

JAN. 29.—By <i>Prins Willem V</i> =Ciudad Bolivar:	
Thebaud Bros (Coarse Pará).....	10,000
CENTRALS.	
JAN. 23 —By the <i>Alliance</i> =Colon:	
Hirzel, Feltman & Co.....	7,900
Isaac Brandon & Bros.....	7,200
A. Santos & Co.....	6,200
G. Amslnck & Co.....	5,200
Dumarest & Co.....	3,100
H. Marquardt & Co.....	2,500
Edwin B. Strout.....	1,700
Joseph Hecht & Sons.....	1,300
International Crude Rubber Co.....	900
W. R. Grace & Co.....	800
Edward Maurer.....	800
Flint, Eddy & Co.....	800
L. N. Chemedlin & Co.....	700
Smithers, Nordenholt & Co.....	400
W. Loalza & Co.....	400
Mosle Brothers.....	100
JAN. 27.—By the <i>Louisiana</i> =New Orleans:	
A. T. Morse & Co.....	9,000

CENTRALS—Continued.

JAN. 27.—By <i>El Norte</i> =New Orleans:	
A. T. Morse & Co.....	3,500
Eggers & Heinlein.....	1,500
For Europe.....	1,500
6,500	
JAN. 28.—By the <i>Finance</i> =Colon:	
Hirzel, Feltman & Co.....	14,200
W. R. Grace & Co.....	2,500
J. A. Wheeler.....	1,500
G. Amslnck & Co.....	2,000
Eggers & Heinlein.....	1,500
Beek, Andrews & Co.....	300
22,000	
JAN. 28.—By the <i>Athos</i> =Greytown:	
Andreas & Co.....	2,500
Edwin B. Strout.....	1,000
A. D. Straus & Co.....	500
G. Amslnck & Co.....	1,200
Samper & Co.....	1,000
Punderford & Co.....	700
Jimenez & Escobar.....	500
7,400	
FEB. 3.—By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.....	2,200
A. N. Rotholz.....	2,500
Eggers & Heinlein.....	500
5,200	

CENTRALS—Continued.

FEB. 3.—By the <i>Yucatan</i> =Mexico:	
Flint, Eddy & Co.....	1,200
P. Harmony Nephews & Co.....	1,200
L. N. Chemedlin & Co.....	600
3,000	
FEB. 4.—By the <i>Alleghany</i> =Savanilla:	
J. H. Reeknagel & Son.....	2,500
G. Amslnck & Co.....	1,000
Punderford & Co.....	800
Knobhardt & Co.....	200
D. A. De Lima & Co.....	300
4,800	
FEB. 4.—By the <i>Orizaba</i> =Colon:	
A. Santos & Co.....	7,400
Hirzel, Feltman & Co.....	3,800
Frame, Alston & Co.....	2,600
Dumarest & Co.....	2,030
G. Amslnck & Co.....	1,400
Flint, Eddy & Co.....	1,600
Joseph Hecht & Son.....	300
19,100	
FEB. 4.—By the <i>Saronfa</i> =Liverpool:	
Robinson & Tallman.....	8,500
FEB. 5.—By <i>El Rio</i> =New Orleans:	
A. T. Morse & Co.....	4,500
T. N. Morgan.....	500
5,000	

CENTRALS—Continued.

FEB. 7.—By <i>El Dorado</i> =New Orleans:	
A. T. Morse & Co.....	2,000
FEB. 7.—By the <i>Havana</i> =Mexico:	
E. Steiger & Co.....	3,000
Tuebaud Brothers.....	1,000
H. Marquardt & Co.....	3,000
F. Probst & Co.....	500
For Europe.....	7,500
15,000	
FEB. 13.—By the <i>Alenc</i> =Greytown:	
Edwin B. Strout.....	6,500
A. D. Straus & Co.....	3,000
Livingstone & Co.....	1,200
G. Amsinck & Co.....	1,000
Jimenez & Escobar.....	1,000
Lawrence Johnson & Co.....	1,000
13,700	
FEB. 13.—By the <i>Advance</i> =Colon:	
Isaac Brandon & Bros.....	6,200
FEB. 13.—By <i>El Sud</i> =New Orleans:	
A. T. Morse & Co.....	7,000
Samper & Co.....	2,500
A. S. Lassell & Co.....	100
9,600	
FEB. 14.—By <i>El Paso</i> =New Orleans:	
A. T. Morse & Co.....	20,000
FEB. 17.—By the <i>Etruria</i> =Liverpool:	
Otto Meyer.....	21,929
FEB. 18.—By the <i>Altai</i> =Savannah:	
G. Amsinck & Co.....	2,000
Kunhardt & Co.....	2,500
For Europe.....	2,000
D. A. De Lima & Co.....	1,200
Boldan & Van Sickle.....	500
Lawrence Johnson & Co.....	500
Jimenez & Escobar.....	200
J. Firro.....	100
9,000	
FEB. 18.—By the <i>Alliance</i> =Colon:	
Hirzel, Feltman & Co.....	14,500
D. A. DeLima & Co.....	9,800
Isaac Brandon & Bros.....	8,200
Flint, Eddy & Co.....	5,400
G. Amsinck & Co.....	4,000
A. Santos & Co.....	3,800
Dumarest & Co.....	3,200
H. Marquardt & Co.....	3,200
R. F. Cornwall.....	2,200
Edward Mauer.....	1,100
Eggers & Heinlein.....	800
Frame, Alston & Co.....	700
Lawrence Johnson & Co.....	400
Boldan & Van Sickle.....	200
Jos. Hecht & Son.....	200
58,700	
FEB. 18.—By the <i>Bellano</i> =Bahia:	
J. H. Rossbach & Bros.....	3,500
FEB. 19.—By the <i>Adirondack</i> =Savannah:	
G. Amsinck & Co.....	2,000
J. H. Reckrager & Co.....	1,500
Jimenez & Escobar.....	500
Kunhardt & Co.....	400
Samper & Co.....	300
4,700	
FEB. 20.—By <i>El Valle</i> =New Orleans:	
A. T. Morse & Co.....	14,000
Eggers & Heinlein.....	2,000
For Europe.....	2,000
17,000	

AFRICANS.

JAN. 24.—By the <i>Celtic</i> =Liverpool:	
George A. Alden & Co.....	22,000
Reimers & Co.....	6,500
Ideal Rubber Co.....	11,000
39,500	
JAN. 25.—By the <i>Pretoria</i> =Hamburg:	
A. T. Morse & Co.....	7,000
JAN. 27.—By the <i>Umbria</i> =Liverpool:	
George A. Alden & Co.....	20,000
Reimers & Co.....	26,000
Otto Meyer.....	19,806
Roblson & Tallman.....	3,500
69,306	
FEB. 3.—By the <i>Phoenicia</i> =Hamburg:	
William Wright & Co.....	11,500
FEB. 4.—By the <i>Saxonia</i> =Liverpool:	
Roblson & Tallman.....	26,000
Reimers & Co.....	9,000
George A. Alden & Co.....	2,000
37,000	
FEB. 5.—By the <i>Zeeland</i> =Antwerp:	
George A. Alden & Co.....	45,000
A. T. Morse & Co.....	13,500
58,500	
FEB. 7.—By the <i>Patricia</i> =Hamburg:	
Reimers & Co.....	25,000
Otto Meyer, Boston.....	4,500
29,500	
FEB. 10.—By the <i>Luania</i> =Liverpool:	
George A. Alden & Co.....	26,000
International Crude Rubber Co.....	3,000
29,000	
FEB. 10.—By the <i>British Princess</i> =Antwerp:	
Joseph Cantor.....	35,000
A. T. Morse & Co.....	5,000
40,000	
FEB. 17.—By the <i>Etruria</i> =Liverpool:	
George A. Alden & Co.....	30,000
Otto Meyer.....	11,500
41,500	
FEB. 19.—By the <i>Friesland</i> =Antwerp:	
A. T. Morse & Co.....	22,500
EAST INDIAN.	
JAN. 25.—By the <i>Pretoria</i> =Hamburg:	
William Wright & Co.....	2,500
Roblson & Tallman.....	1,000
3,500	
FEB. 5.—By the <i>Cloverdale</i> =Singapore:	
Reimers & Co.....	11,000
FEB. 17.—By the <i>St. Paul</i> =Southampton:	
Reimers & Co.....	18,000
PONTIANAK.	
FEB. 5.—By the <i>Cloverdale</i> =Singapore:	
Reimers & Co.....	30,000
William Wright & Co.....	185,000
215,000	
FEB. 11.—By the <i>Kurdistan</i> =Singapore:	
Robert Brans & Co.....	75,000
GUTTA-PERCHA AND BALATA.	
FEB. 17.—By the <i>St. Paul</i> =Southampton:	
George A. Alden & Co.....	2,500

BALATA.

JAN. 25.—By the <i>St. Paul</i> =Southampton:	
George A. Alden & Co.....	2,500
H. A. Gould & Co.....	1,000
3,500	
FEB. 7.—By the <i>Patricia</i> =Hamburg:	
Robert Soltau & Co.....	11,500
FEB. 15.—By the <i>Prins Maurits</i> =Trinidad:	
Thebaud Brothers.....	1,500
George A. Alden & Co.....	500
2,000	

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—JANUARY.		
Imports:	POUNDS.	VALUE.
India-rubber.....	5,939,501	\$2,932,514
Gutta-percha.....	48	40
Gutta-jelatang (Pontfanak)....	2,479,977	72,114
	8,419,526	\$3,004,668
Exports:		
India-rubber.....	81,305	\$45,005
Reclaimed rubber.....	171,611	25,906
Rubber Scrap Imported.....	137,865	\$69,473

BOSTON ARRIVALS.

JAN. 2.—By the <i>Adria</i> =Hamburg:	
Livesey & Co.—African.....	21,518
JAN. 4.—By the <i>Cestrian</i> =Liverpool:	
Roblson & Tallman.—Caucho.....	6,706
Livesey & Co.—Centrals.....	8,487
15,193	
JAN. 8.—By the <i>Zeeland</i> =Antwerp:	
George A. Alden & Co.—African....	44,904
[Included in arrivals at New York, January 2.]	
JAN. 9.—By the <i>Sagamore</i> =Liverpool:	
George A. Alden & Co.—African....	30,453
Otto Meyer—African.....	2,249
32,702	
JAN. 14.—By the <i>Friesland</i> =Antwerp:	
Reimers & Co.—African.....	32,073
[Included in arrivals at New York, January 9.]	
JAN. 14.—By the <i>Alexandria</i> =Hamburg:	
Otto Meyer—African.....	7,757
JAN. 15.—By the <i>Kansas</i> =Liverpool:	
Reimers & Co.—Caucho.....	36,295
George A. Alden & Co.—African....	22,58
58,882	
JAN. 26.—By the <i>Sachen</i> =Liverpool:	
Reimers & Co.—African.....	29,311
JAN. 30.—By the <i>Devonian</i> =Liverpool:	
George A. Alden & Co.—African....	22,587
Reimers & Co.—African.....	22,369
44,956	
JAN. 31.—By the <i>Irishman</i> =Liverpool:	
Otto Meyer—African.....	4,635
Total.....	291,921
	[Value, \$147,189.]

JANUARY EXPORTS OF INDIA-RUBBER FROM PARA.

IN KILOGRAMS. 100₀ KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co.....	14,280	1,190	61,000	—	76,470	130,425	13,029	44,757	10,380	198,591	275,061
Frank da Costa & Co.....	76,354	11,432	182,787	340	270,913	85,440	10,146	17,064	5,250	117,900	388,813
Adelbert H. Alden.....	96,846	32,117	67,136	1,171	197,270	13,500	1,620	3,520	—	18,640	215,910
The Sears Pará Rubber Co....	4,381	340	—	—	4,420	—	—	—	—	—	4,420
Kanhack & Co.....	—	—	—	—	—	15,392	1,269	20,603	—	37,264	37,264
Neale & Staats.....	8,160	1,020	22,320	—	31,500	57,782	10,850	9,701	5,397	83,730	115,230
H. A. Astlett.....	—	—	—	—	—	2,523	—	621	—	3,144	3,144
Denis Crouan & Co.....	—	—	16,015	—	16,015	67,407	11,585	23,977	—	102,969	118,984
R. Suarez & Co.....	—	—	—	—	—	56,745	8,467	2,583	2,725	70,520	70,520
Pires, Teixeira & Co.....	3,813	—	1,580	—	5,393	3,213	189	3,046	—	6,448	11,841
Sundry Small Shippers.....	—	—	—	—	—	5,625	800	1,244	—	7,669	7,669
Direct from Iquitos.....	—	—	—	—	—	162,980	14,945	80,327	133,795	392,047	392,047
Direct from Manaós.....	401,801	131,798	132,057	135,907	801,563	739,213	172,315	113,607	206,893	1,232,028	2,033,591
Total for January.....	605,334	177,897	482,895	137,418	1,403,544	1,340,245	245,215	321,050	364,440	2,270,950	3,674,494
Total for July-December.....	3,159,115	794,731	1,869,858	214,206	6,037,910	4,585,094	823,442	1,196,891	657,713	7,263,140	13,301,050
TOTAL, CROP YEAR.....	3,764,449	972,628	2,352,753	351,624	7,441,454	5,925,339	1,068,657	1,517,941	1,022,153	9,534,090	16,975,544

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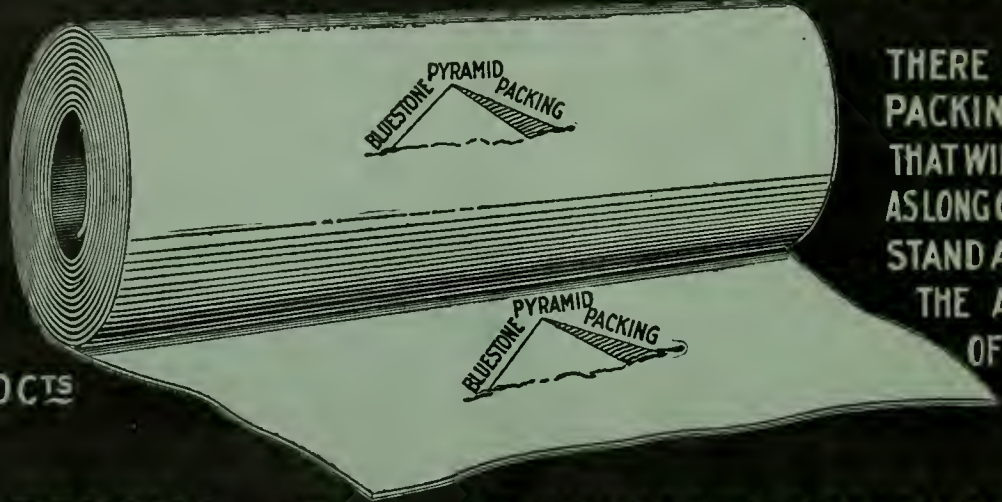
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